DISASSEMBLY

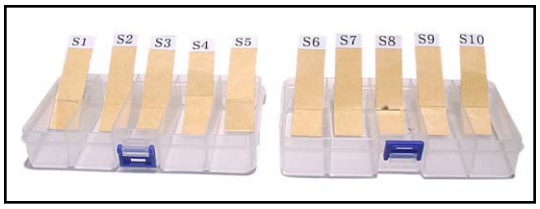
1. Precautions

■ About this manual

- Photos and illustrations contained in this manual may differ from the appearance of an actual product (casing colors, silk print, etc.).

■ About repair

- To avoid damages to the instrument and floor, lay the instrument on a mattress or blanket before starting disassembling.
- There are several kinds of screws. Be sure to use the correct type of screws when assembling. It is advisable to sort the screws as shown below after removing them.



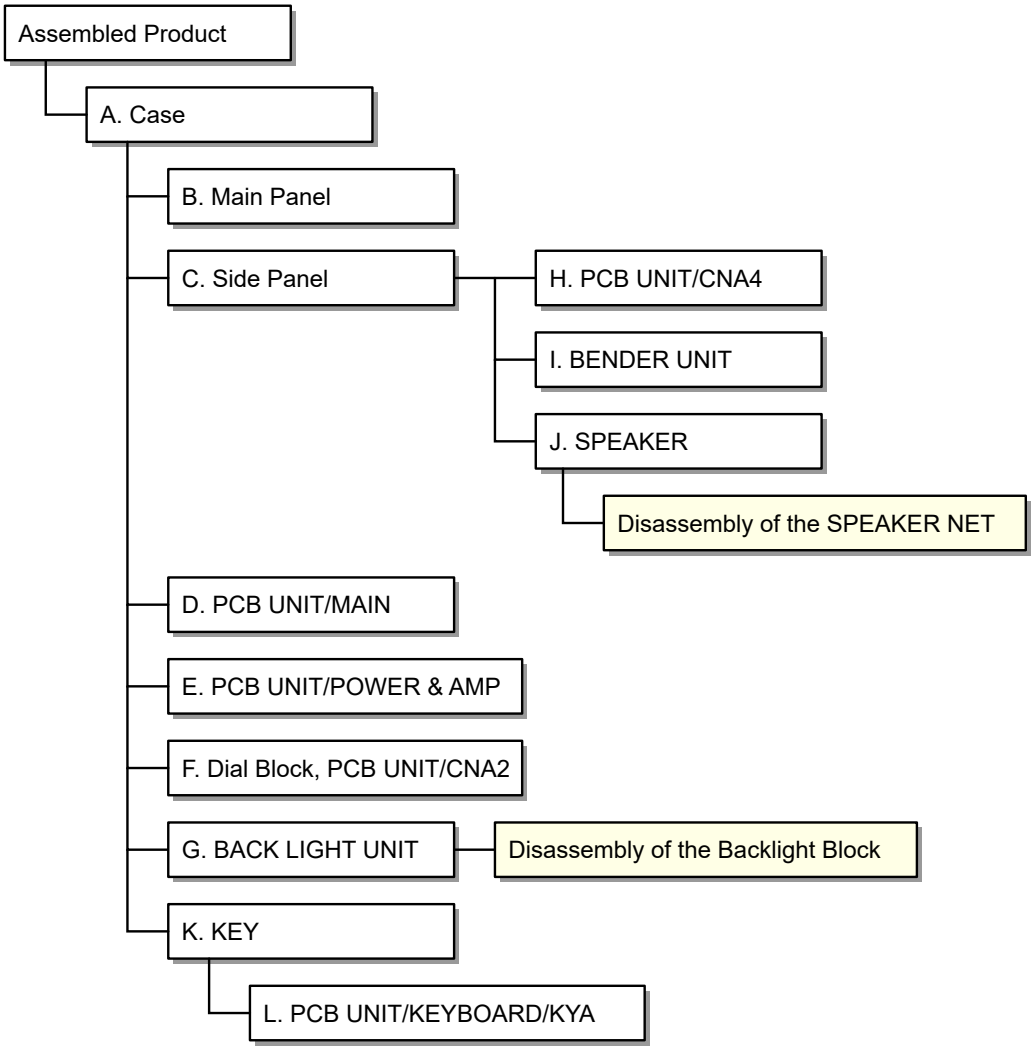
- If a screw cap is attached to the screw, remove it.
  When assembling, reattach the screw cap.
- Check how cables are wired before removing cables.
  When assembling, wire the cables in the same manner as they were before disassembly.
- If a cable is bound by cable tie, tape or similar item, remove it as necessary.
  When assembling, bind the cable as it was before disassembly.
- The number of pins of ribbon cable is sometimes different from the number of pads of PCB.
  Solder the pin No. 1 (orange) of cable on the pad No. 1 of PCB.

■ Before starting repair or servicing

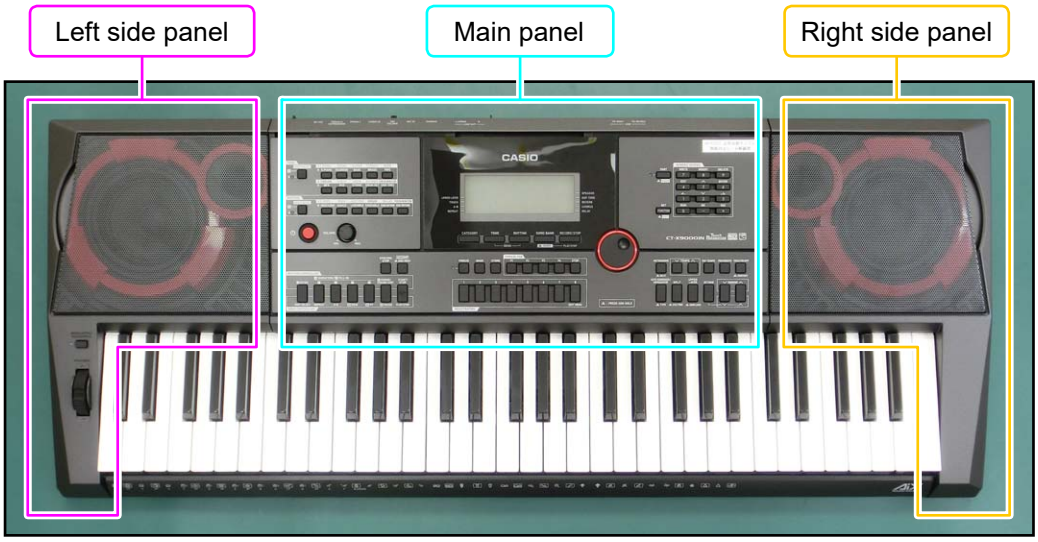
- Remove the AC adaptor, AC cord or batteries.
- Remove accessories such as the music stand.

2. Disassembly Procedure

■ Flowchart

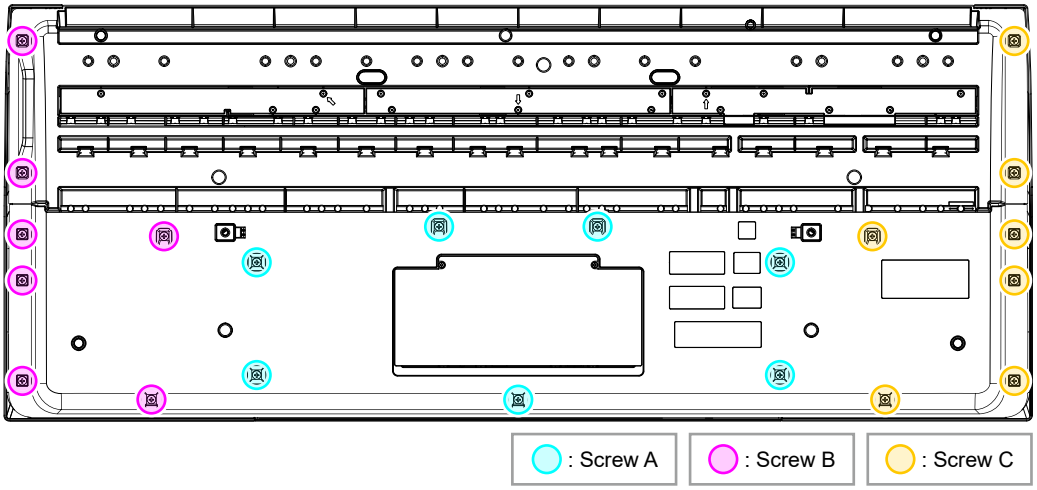


A. Removing the Case



A-1. Undo screws on the bottom surface.

- To remove the main panel, undo 7 screw A.
- To remove the left side panel, undo 7 screw A and 7 screw B.
- To remove the right side panel, undo 7 screw A and 7 screw C.



Notes on Assembly

- Check that cables are not covering the screw hole before tightening a screw.

A-2. Place the digital keyboard with the keyboard facing up.

NOTE: The panel(s) and lower case are not secured at this point.
Hold the panel(s) with your hands when turning over the digital keyboard.

A-3. Lift the main panel and turn it over.

NOTE: The main panel and lower case are connected with cables. Use caution so as not to apply too much tension to the cables when lifting the main panel.

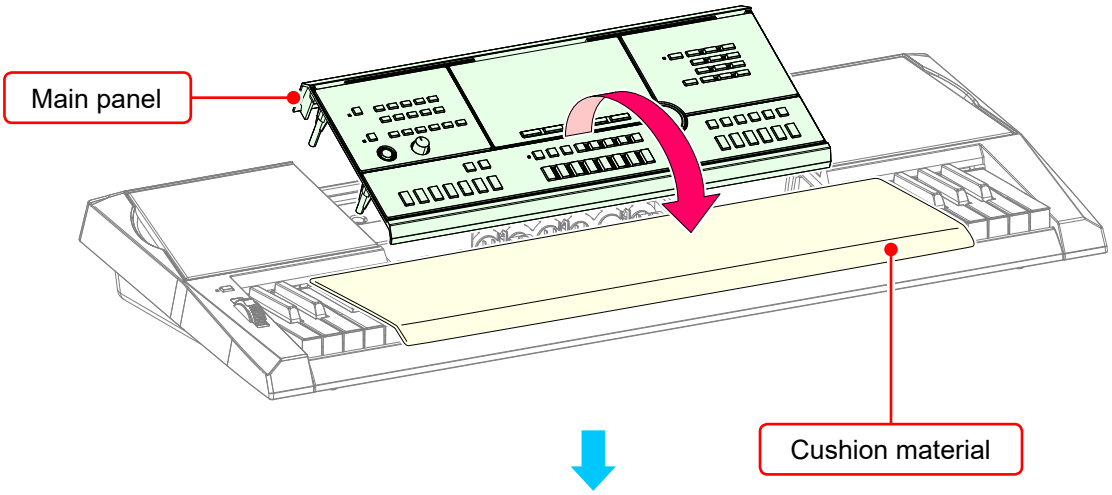
NOTE: Mat a cushion material (cloth etc.) not to damage the keyboard before placing the main panel.

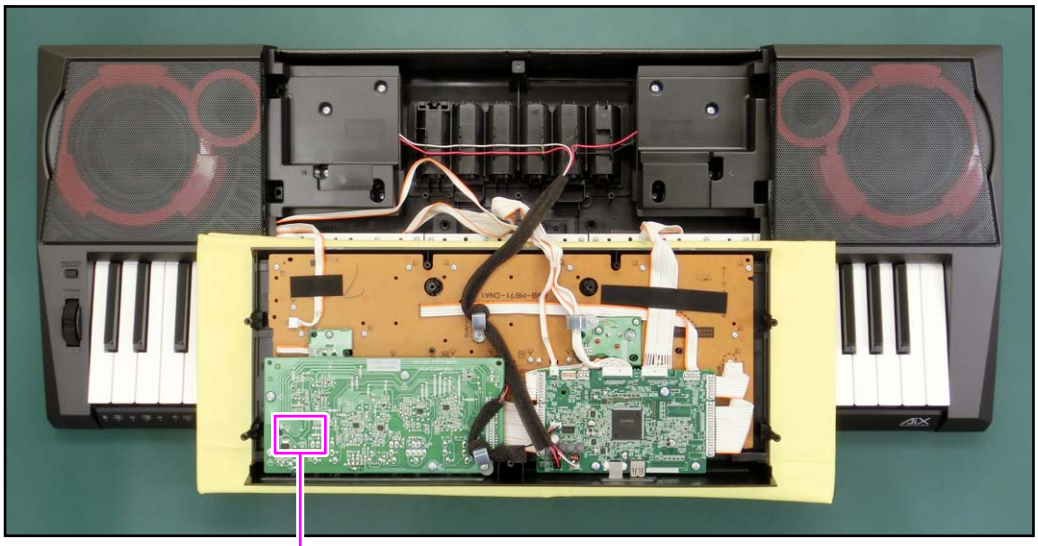
A-4. Discharge the capacitor on the PSA1 PCB.

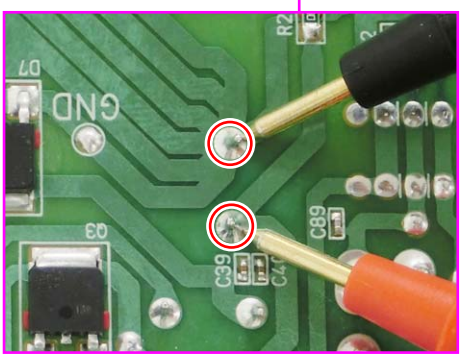
- Touch 2-pin terminals on the capacitor with discharging jigs for approx. 1 second.
- Polarity of a jig is not specified.
  (You may touch either pin terminal with a jig of either polarity.)

NOTE: Never touch terminals that are not specified in the figure below.

NOTE: If you have connected the digital keyboard to the power supply to check for symptoms during repair, be sure to discharge electricity after disconnecting the AC adapter and before continuing with repair.

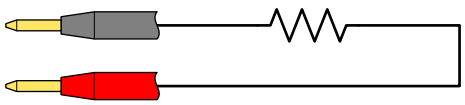






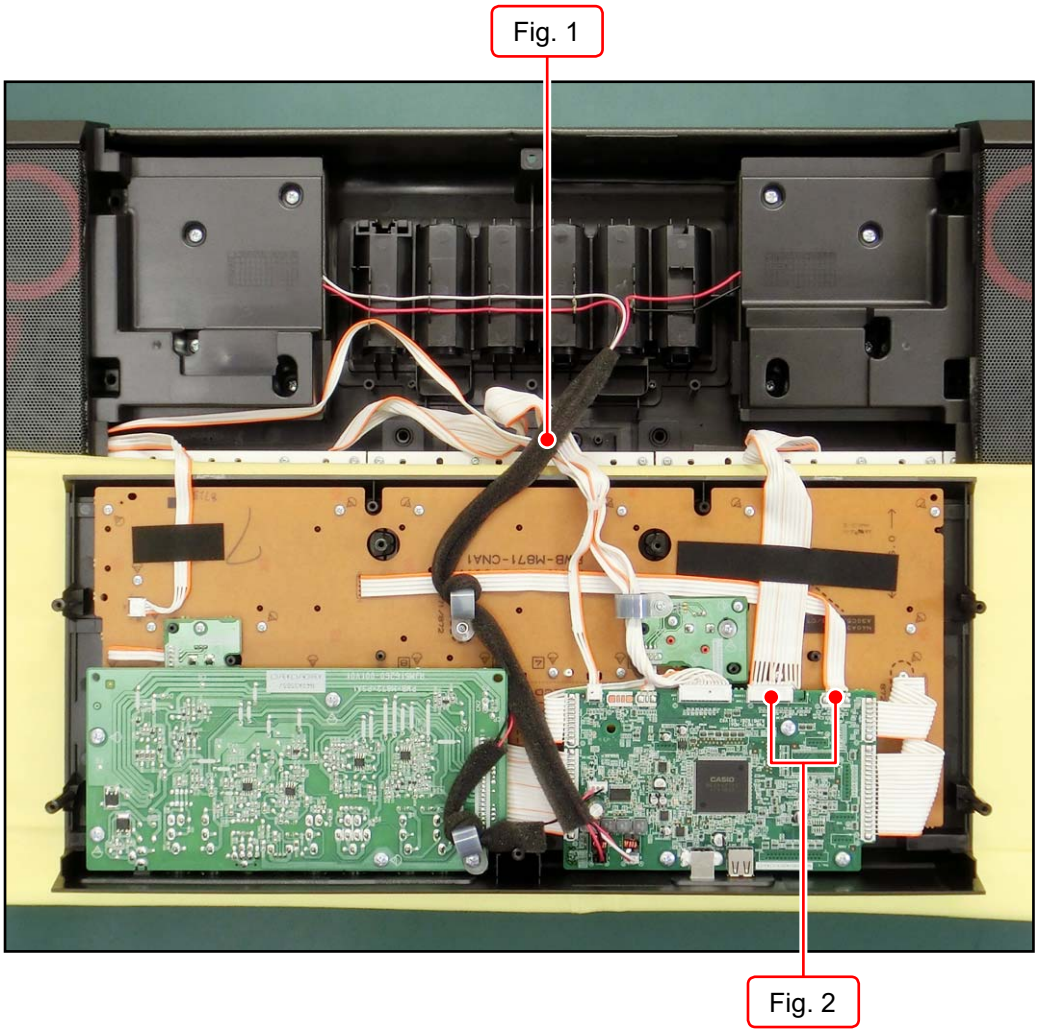
Jig Circuit

120 Ω (2 W or higher)

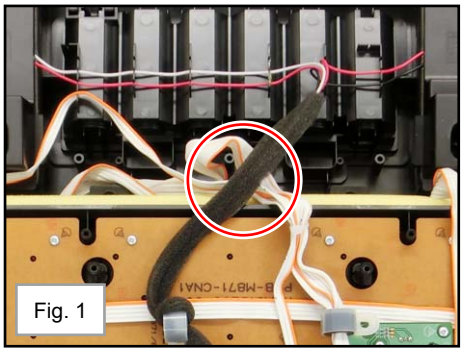


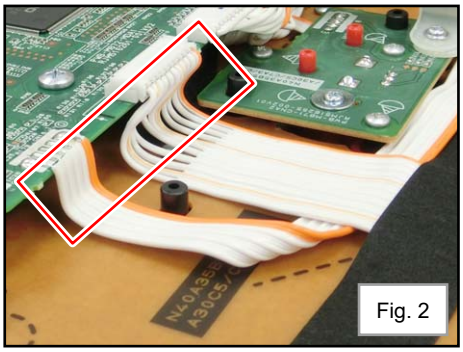
Notes on Assembly

- Before closing the main panel, check the followings:
  – The cables should be arranged as shown in the figure below.
  – The cables should not be on the side panels.

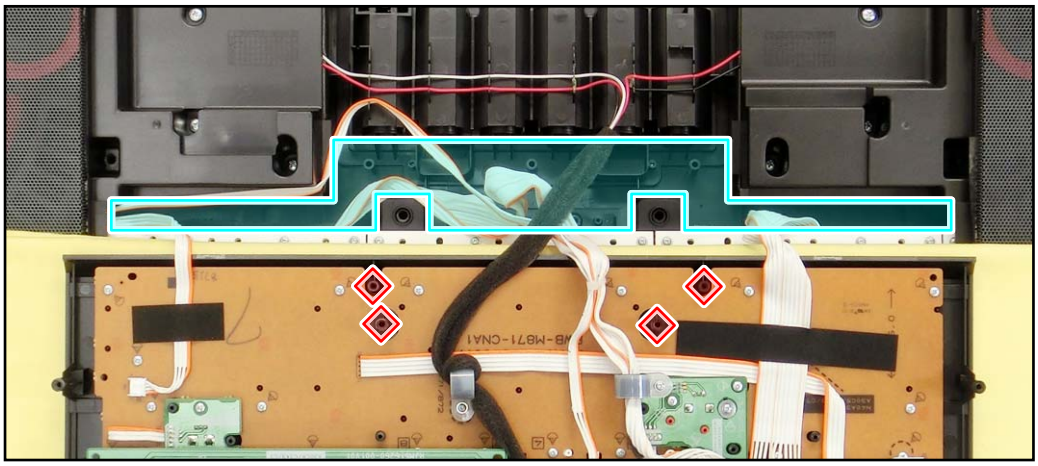


– Fig. 1: The speaker cables should be arranged at the higher place than the KYA1 PCB cable (13-pin) and pitch bend cable (3-pin).
– Fig. 2: The CNA1 PCB cable (5-pin) and KYA2 PCB cable (11-pin) should be folded at a 90-degree angle.
Also, the cables should not float from the CNA1 PCB.





- When closing the main panel, be careful about the followings.
  – The excess length of the cables should be stored within the blue frame shown in the figure above.
    * The cables should be stored in between the ribs of lower case if possible.
  – The cables should not get caught by the bosses.
- After the main panel is closed, hold up the front side of main panel slightly and check that the cable is properly stored.



: Boss

B. Removing the Main Panel

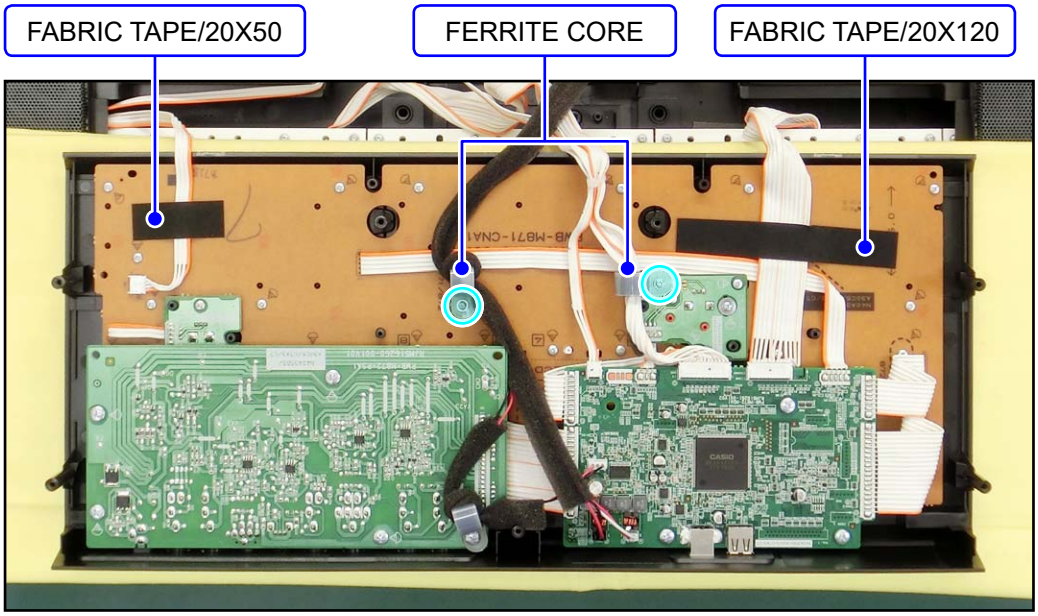
B-1. Peel off FABRIC TAPE/20X50 and FABRIC TAPE/20X120.

MEMO: With FABRIC TAPE/20X50, the modulation cable is fixed to the CNA1 PCB.
With FABRIC TAPE/20X120,the KYA2 PCB cable is fixed to the CNA1 PCB.

MEMO: Peel off the fabric tape carefully not to damage the adherend surface.

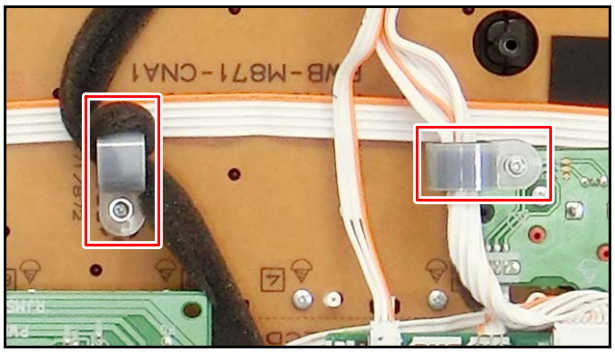
B-2. Undo 2 screws and remove 2 FERRITE CORE.

MEMO: FERRITE CORE are attached to the KYA1 PCB cable and speaker cables.



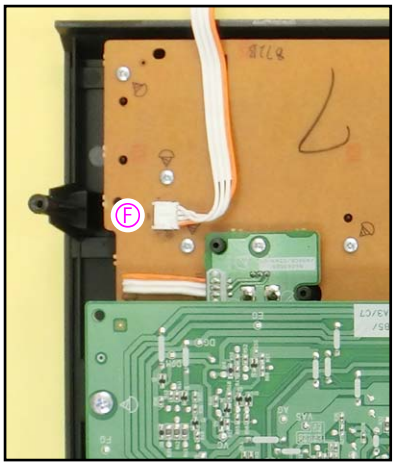
Notes on Assembly

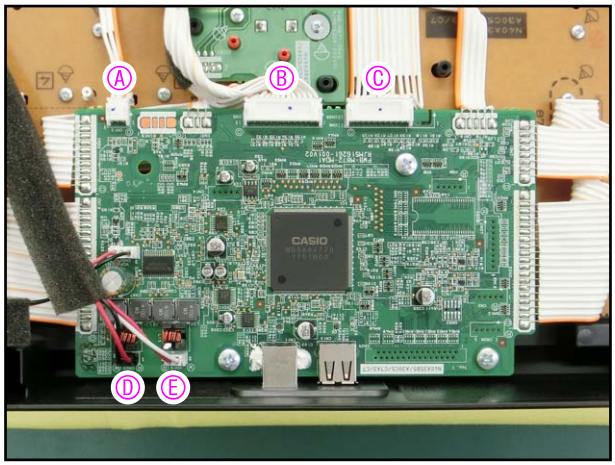
- Attach FERRITE CORE in the orientation shown in the figure below.



B-3. Disconnect the following cables and remove the main panel.

Cable / Remarks			Connected From
Ⓐ	Ribbon cable	3-pin	Pitch bend
Ⓑ	Ribbon cable	13-pin	KYA1 PCB
Ⓒ	Ribbon cable	11-pin	KYA2 PCB
Ⓓ	Harness	Red, black	Right speaker
Ⓔ	Harness	Red, white	Left speaker
Ⓕ	Ribbon cable	4-pin, modulation	CNA4 PCB





Notes on Assembly

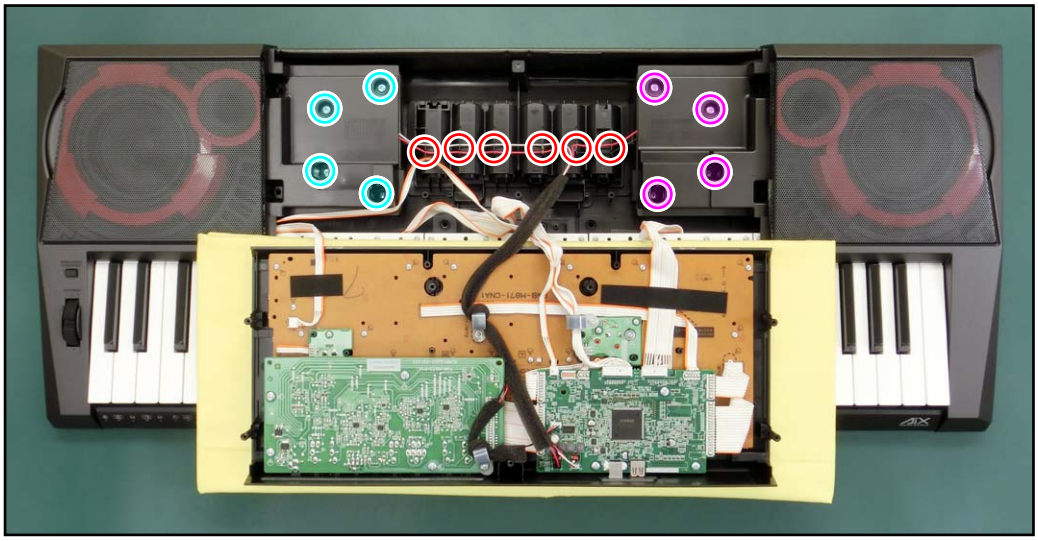
- Arrange the cables referencing “Notes on Assembly” on page 5.

C. Removing the Side Panel

C-1. Undo screws on the side panel.

- To remove the left side panel, undo 4 screw A.
- To remove the right side panel, undo 4 screw B.

C-2. Remove the side panel cables from the ribs of lower case.



: Screw A | : Screw B | : Rib

C-3. Undo 1 screw and remove FERRITE CORE.

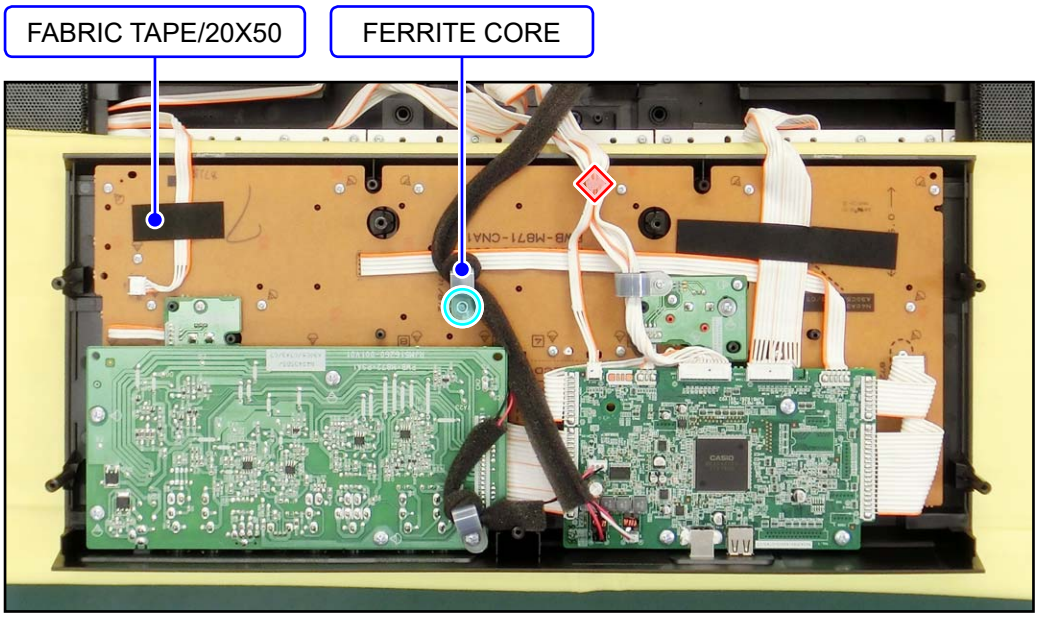
MEMO: FERRITE CORE is attached to the speaker cables.

C-4. Only left side panel:

- Undo the cable tie from the pitch bend cable.
- Peel off FABRIC TAPE/20X50.

MEMO: The cable tie bundles the pitch bend cable and KYA1 PCB cable.

MEMO: With FABRIC TAPE/20X50, the modulation cable is fixed to the CNA1 PCB. Peel off the fabric tape carefully not to damage the adherend surface.



: Screw | : Cable tie

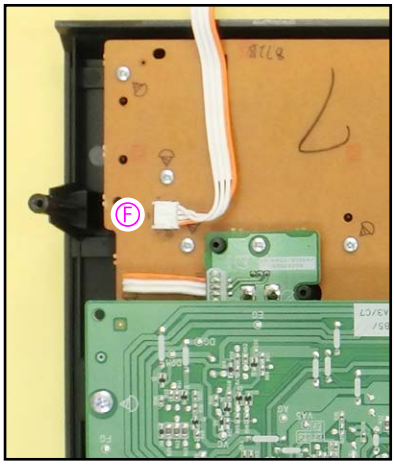
Notes on Assembly

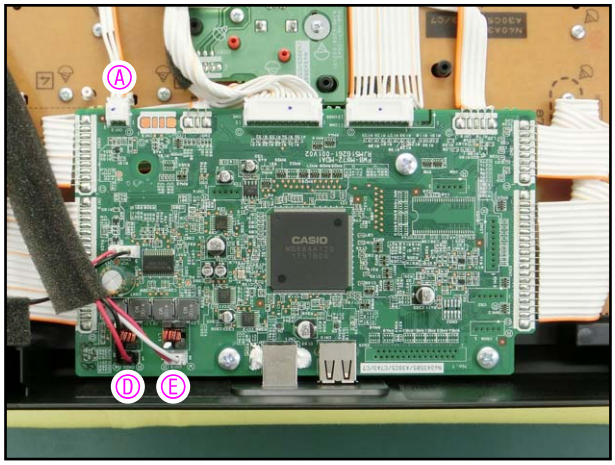
- Attach the ferrite core referencing “Notes on Assembly” on page 7.
- Arrange the cables referencing “Notes on Assembly” on page 5.

C-5. Disconnect the following cables.

MEMO: The left speaker cable and right speaker cable are bundled with SPONGE/35X360.

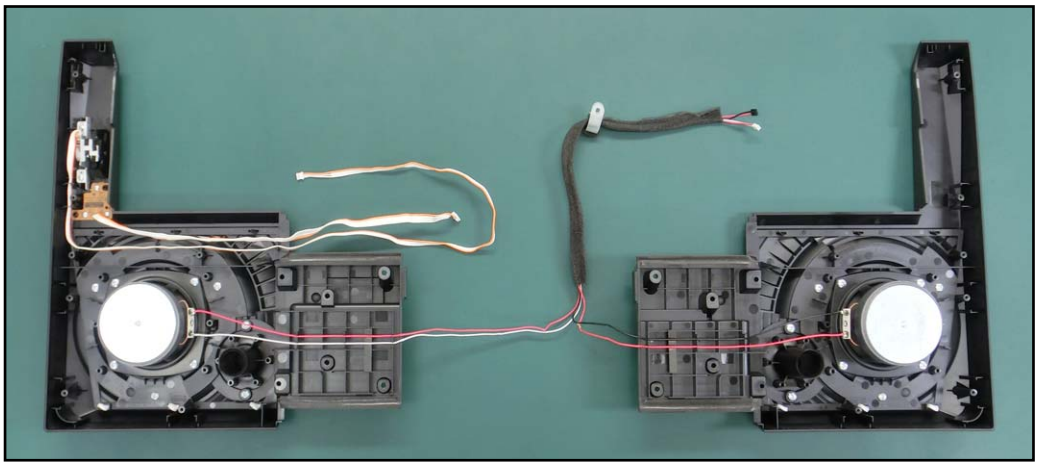
Cable / Remarks			Connected From
Ⓓ	Harness	Red, black	Right speaker
Ⓔ	Harness	Red, white	Left speaker
Only Left Side Panel			
Ⓐ	Ribbon cable	3-pin	Pitch bend
Ⓕ	Ribbon cable	4-pin, modulation	CNA4 PCB





C-6. Remove the side panel.

NOTE: The left side panel and right side panel are connected with cables.
Use caution so as not to apply too much tension to the cables when removing the side panel.



Notes on Assembly

- Arrange the cables referencing “Notes on Assembly” on page 5.

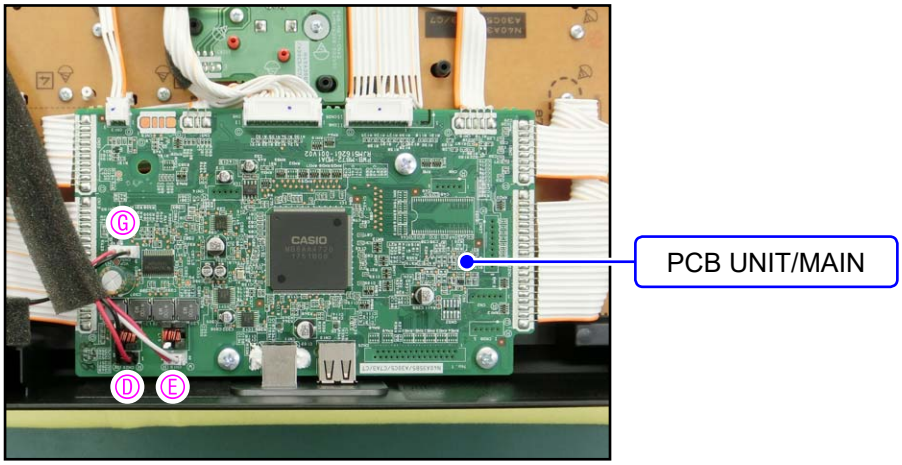
D. Removing the PCB UNIT/MAIN

NOTE: Remove the main panel before work as occasion demands conserving the workability.

D-1. Disconnect the following cables.

MEMO: The left speaker cable and right speaker cable are bundled with SPONGE/35X360.

Cable / Remarks			Connected From
Ⓓ	Harness	Red, black	Right speaker
Ⓔ	Harness	Red, white	Left speaker
Ⓖ	Harness	Red, black	PSA1 PCB

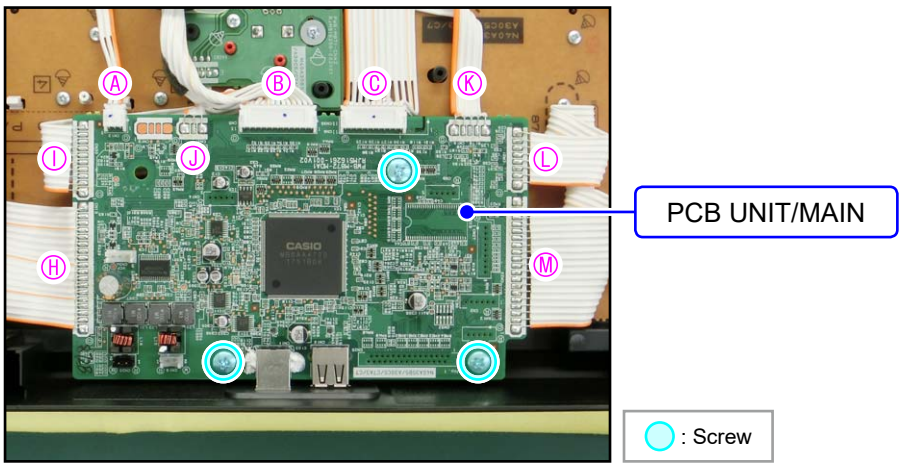


D-2. Disconnect the following cables.
For the figure, refer to the next page.

NOTE: Connectors and electronic parts are mounted around the cable Ⓗ.
When disconnecting (or connecting) the cable, use a solder iron carefully not to contact the peripheral parts.

D-3. Undo 3 screws and remove PCB UNIT/MAIN.
For the figure, refer to the next page.

Cable / Remarks			Connected From
Ⓐ	Ribbon cable	3-pin	Pitch bend
Ⓑ	Ribbon cable	13-pin	KYA1 PCB
Ⓒ	Ribbon cable	11-pin	KYA2 PCB
Solder Joint			
Ⓗ	Ribbon cable	18-pin	PSA1 PCB
Ⓘ	Ribbon cable	10-pin	CNA1 PCB
Ⓙ	Ribbon cable	3-pin, dial	CNA2 PCB
Ⓚ	Ribbon cable	5-pin	CNA1 PCB
Ⓛ	Ribbon cable	8-pin	CNA1 PCB
Ⓜ	Ribbon cable	18-pin (PCB: 19 pads)	CNA1 PCB



Notes on Assembly

- Arrange the cables referencing “Notes on Assembly” on page 5.

E. Removing the PCB UNIT/POWER & AMP

NOTE: Remove the main panel before work as occasion demands conserving the workability.

E-1. Disconnect the following cables.

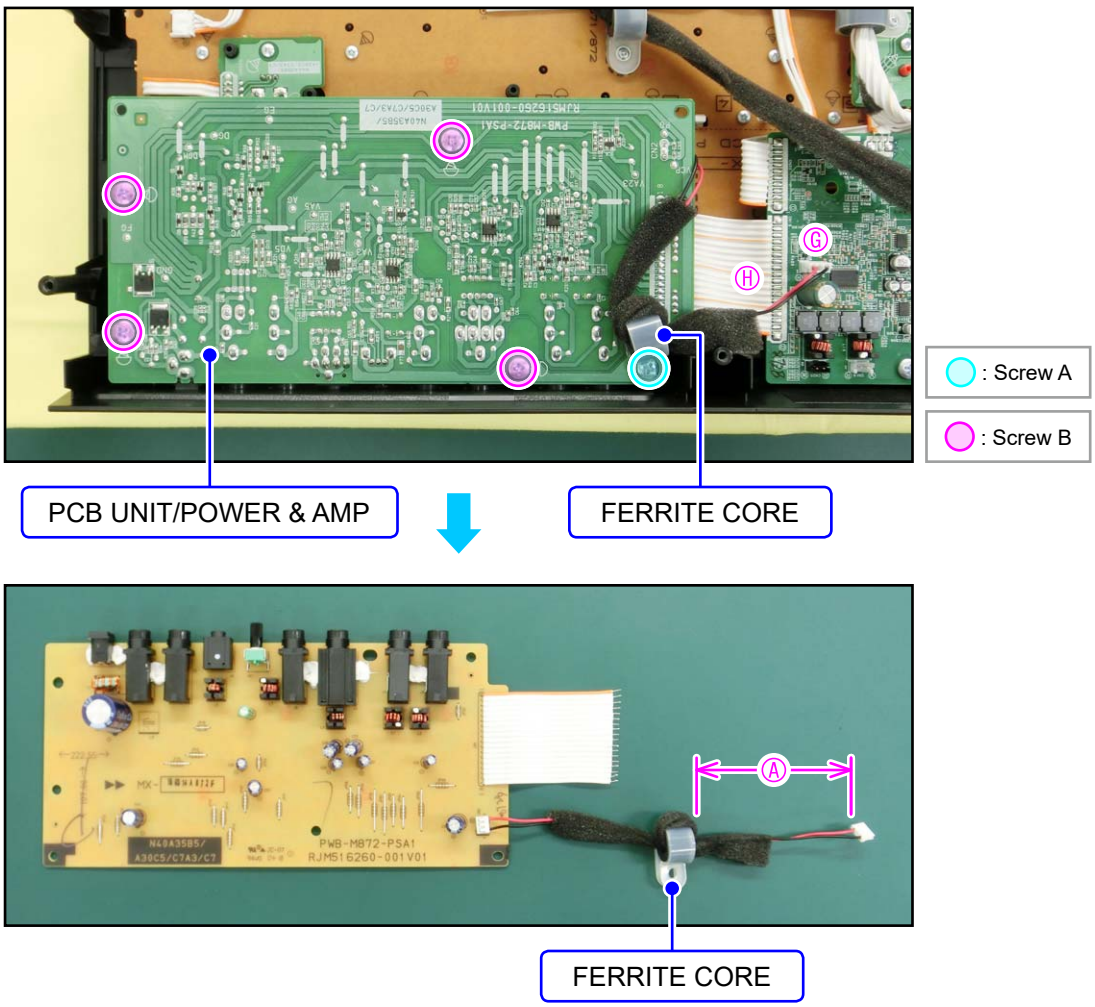
NOTE: Connectors and electronic parts are mounted around the cable Ⓗ.
When disconnecting (or connecting) the cable, use a solder iron carefully not to contact the peripheral parts.

Cable / Remarks			Connected From
Ⓖ	Harness	Red, black	PSA1 PCB
Solder Joint			
Ⓗ	Ribbon cable	18-pin	PSA1 PCB

E-2. Undo 1 screw A and remove FERRITE CORE.

MEMO: FERRITE CORE is attached to the PSA1 PCB cable (cable Ⓖ).

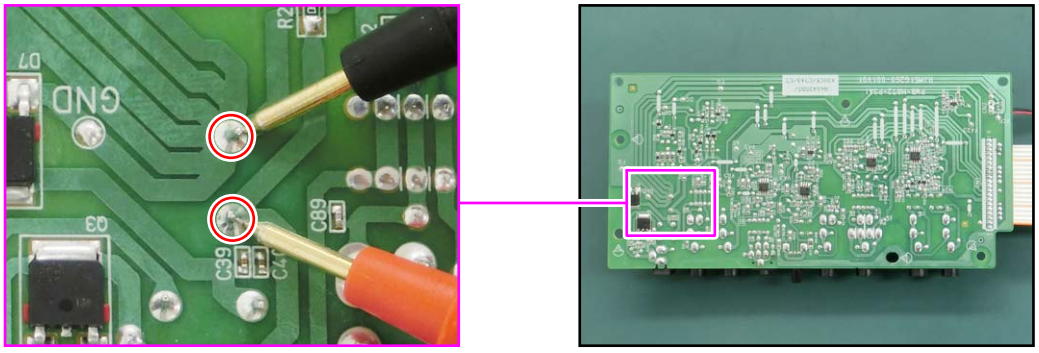
E-3. Undo 4 screw B and remove PCB UNIT/POWER & AMP (w/ FERRITE CORE, SPONGE/35X150).



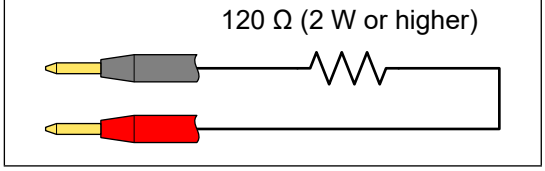
Notes on Assembly

- When replacing PCB UNIT/POWER & AMP, affix SPONGE/35X150 to the cable Ⓖ.
  * For the affixing position, refer to the removed parts.
- When replacing PCB UNIT/POWER & AMP, attach FERRITE CORE to the cable as shown in the figure above (Ⓐ = Approx. 70mm).
  * Wrap the cable around ferrite core once.
- Before assembling PCB UNIT/POWER & AMP, discharge the capacitor on the PSA1 PCB.
  – Touch 2-pin terminals on the capacitor with discharging jigs for approx. 1 second.
  – Polarity of a jig is not specified.
  (You may touch either pin terminal with a jig of either polarity.)

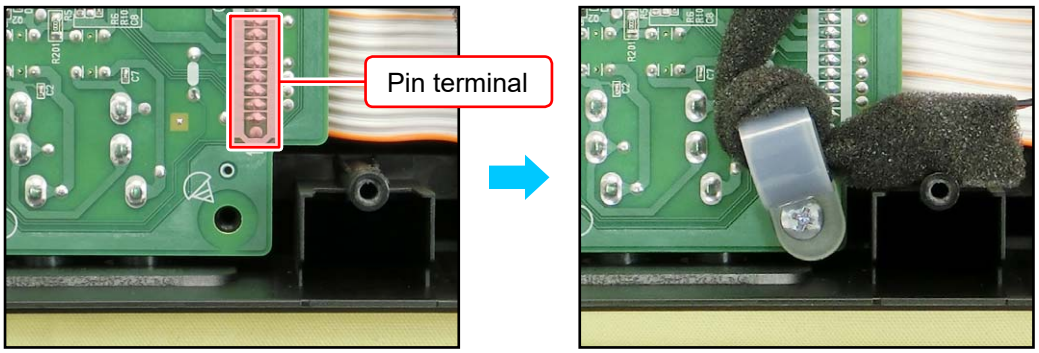
NOTE: Never touch terminals that are not specified in the figure below.



Jig Circuit



- Arrange the cables referencing “Notes on Assembly” on page 5.
- Attach the ferrite core at an angle as shown in the figure below.
  – The ferrite core should not run on the pin terminal of PCB.



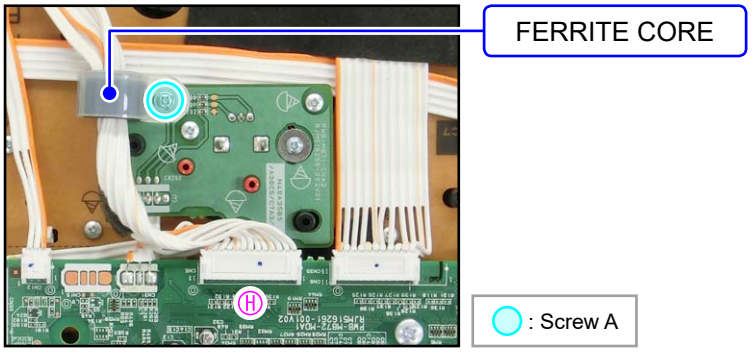
F. Removing the Dial Block, PCB UNIT/CNA2

F-1. Undo 1 screw A and remove FERRITE CORE.

MEMO: FERRITE CORE is attached to the KYA1 PCB cable.

F-2. Disconnect the following cable.

Cable / Remarks			Connected From
Ⓑ	Ribbon cable	13-pin	KYA1 PCB



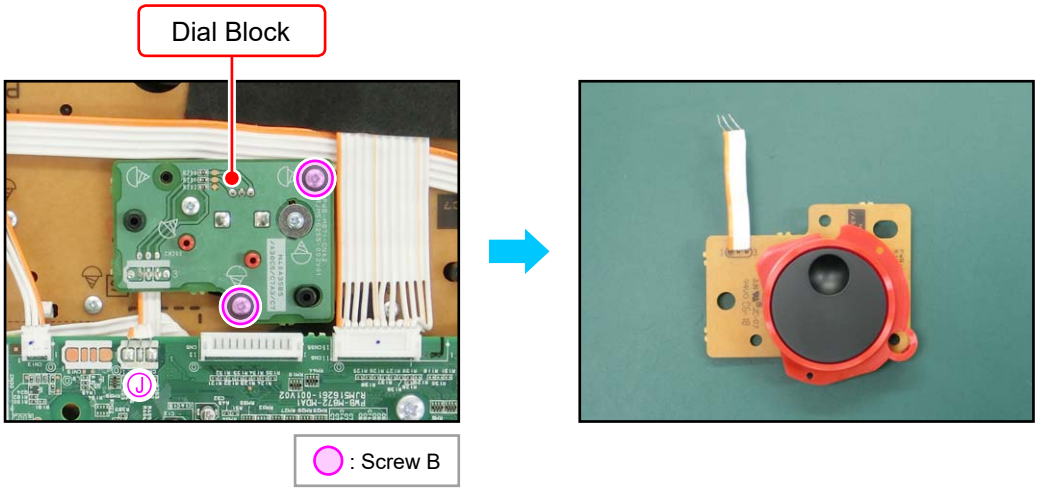
Notes on Assembly

- Arrange the cable as shown in the figure above.
- Attach the ferrite core in the orientation shown in the figure above.

F-3. Disconnect the following cable.

Cable / Remarks			Connected From
Solder Joint			
Ⓙ	Ribbon cable	3-pin, dial	CNA2 PCB

F-4. Undo 2 screw B and remove the Dial Block.

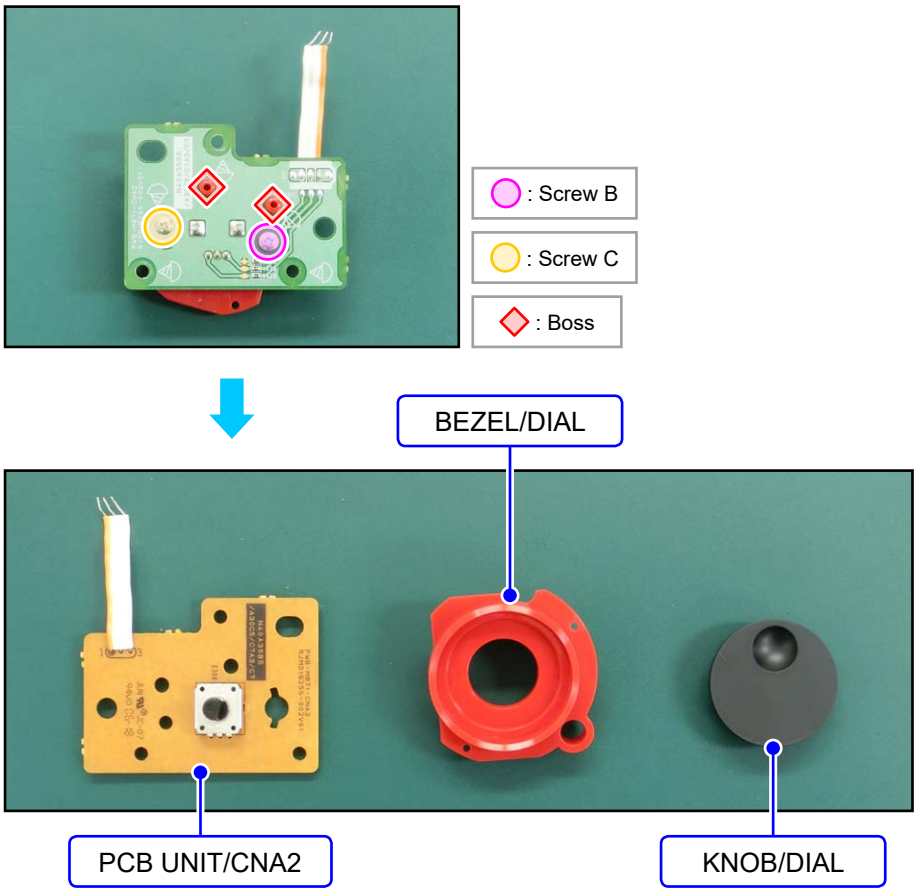


Notes on Assembly

- Arrange the cable as shown in the figure above.
  – The excess length of the cable Ⓙ should be stored under the MDA1 PCB.

F-5. Undo 1 screw B and 1 screw C.

F-6. Push the bosses and remove PCB UNIT/CNA2, BEZEL/DIAL, and KNOB/DIAL.

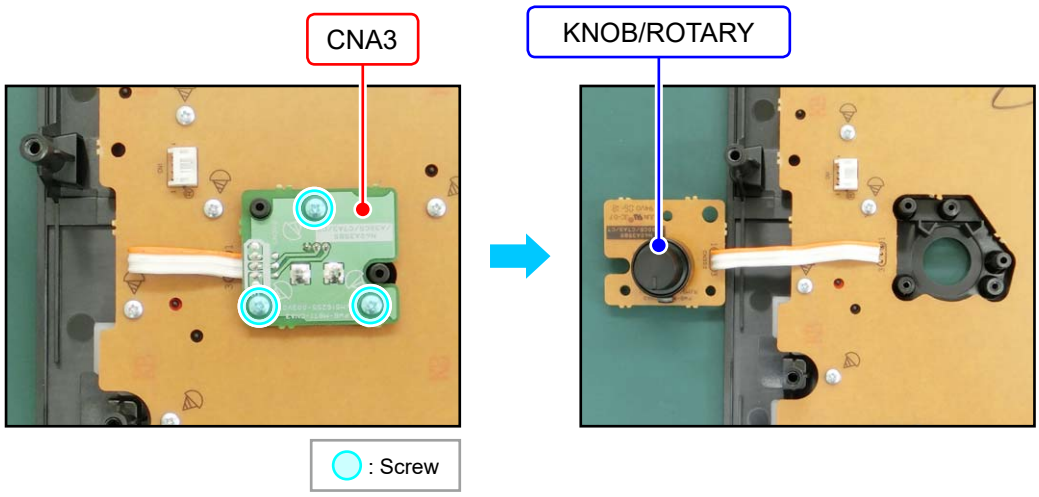


G. Removing the BACK LIGHT UNIT

MEMO: BACK LIGHT UNIT is configured with CNA1 PCB, CBA3 PCB, and backlight component.

G-1. Remove the main panel, PCB UNIT/MAIN, PCB UNIT/POWER & AMP, and Dial Block.
For disassembly procedure, refer to the applicable section.

G-2. Undo 3 screws and remove the CNA3 PCB (w/ KNOB/ROTARY).
Remove KNOB/ROTARY from the CNA3 PCB as necessary.



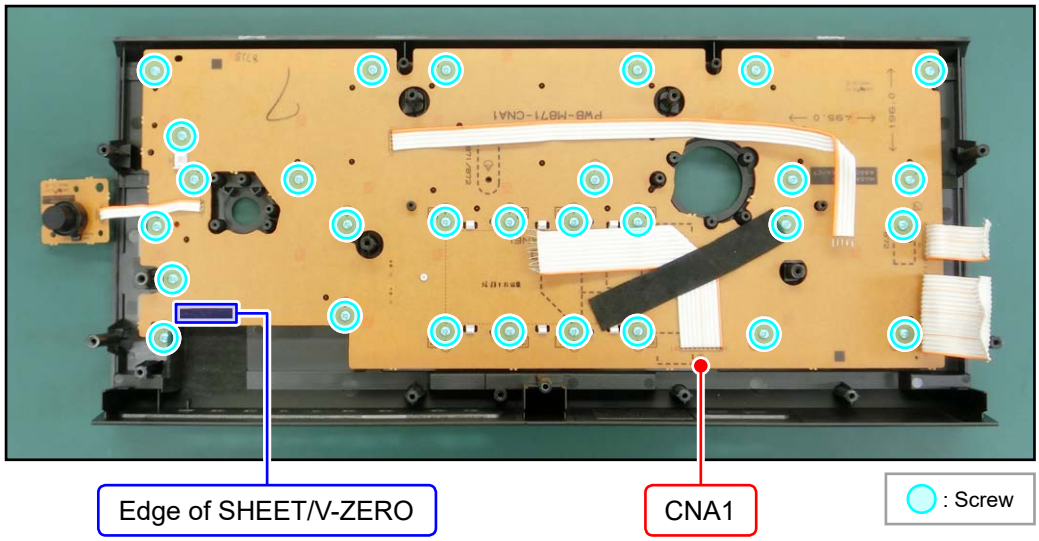
Notes on Assembly

- When attaching KNOB/ROTARY, push it to the back surely.
- Before assembling the CNA3 PCB, the convex portion of knob should be at the medium sound volume position.
  After assembling the CNA3 PCB, check that the knob rotates from minimum sound volume to maximum sound volume smoothly.
- Arrange the CNA3 PCB cable as shown in the figure above.

G-3. Peel off the edge of SHEET/V-ZERO from the CNA1 PCB.

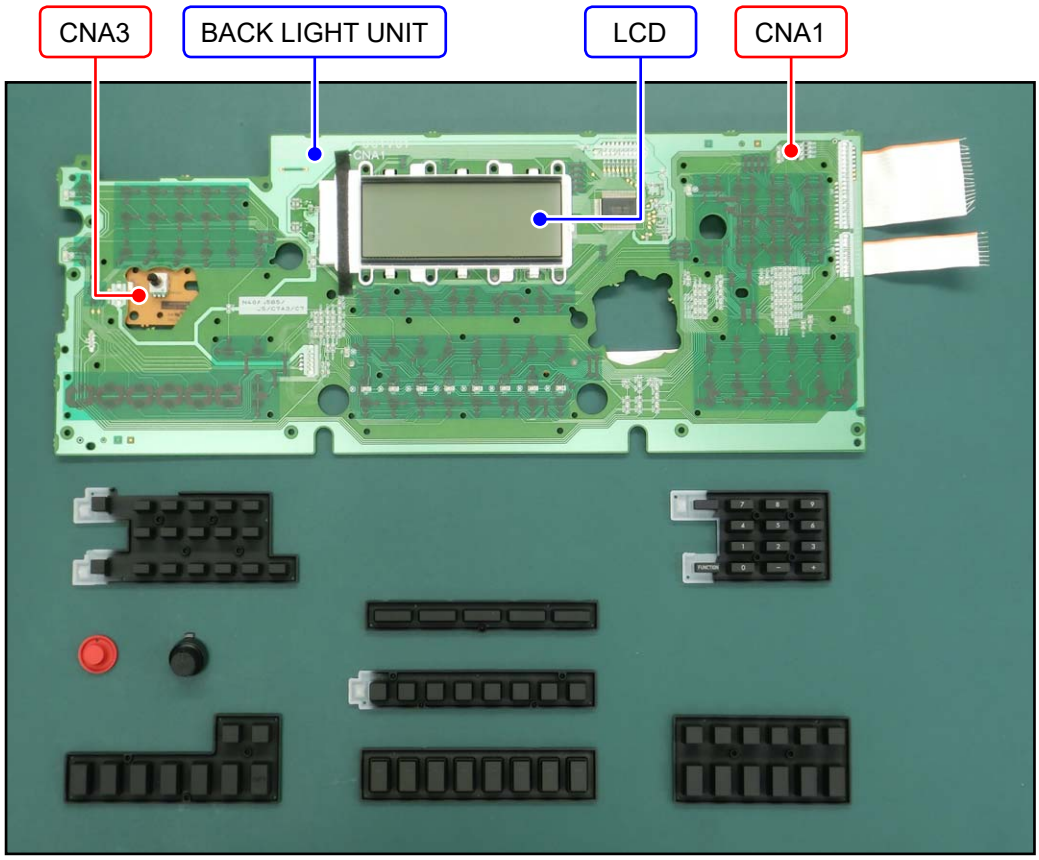
NOTE: It is not necessary to peel off SHEET/V-ZERO completely.
Peel off SHEET/V-ZERO carefully not to damage the adherend surface.

G-4. Undo 29 screws.



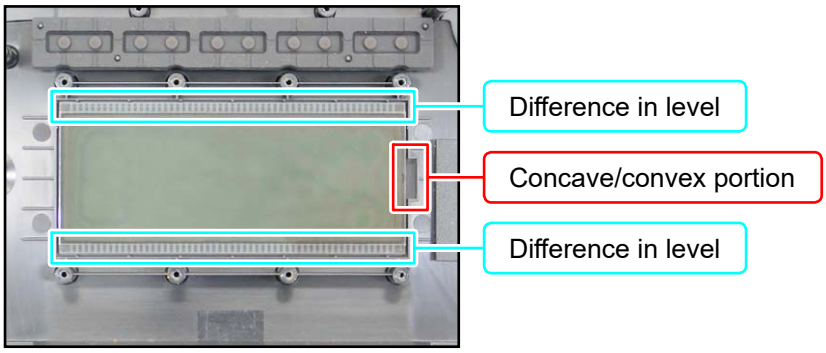
G-5. Remove BACK LIGHT UNIT (w/ FABRIC TAPE/20X120) , rubber keys (x8), and LCD.

NOTE: LCD may be stuck on BACK LIGHT UNIT.
Use caution when handling BACK LIGHT UNIT to prevent LCD from dropping.



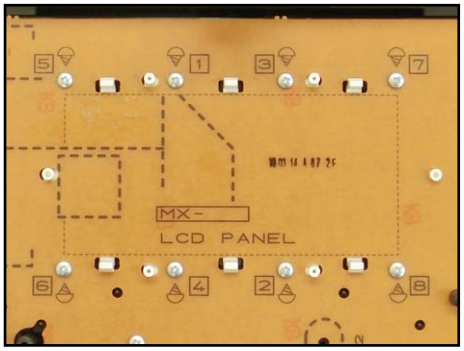
Notes on Assembly

- Before assembling LCD, check that the LCD surfaces on the main panel side and LCD side are free from dust and dirt.
- Be sure that LCD is in the correct orientation when assembling.
  – Fit the convex portion of LCD in the concave portion on the panel.
  – The LCD surface with difference in level should face the board side.



- Before securing BACK LIGHT UNIT, check that the edge of SHEET/V-ZERO is on the CNA1 PCB.

- Tighten the screws at LCD part in the silk-printed order.
  If not tightened correctly, it may cause LCD display errors.



- After assembling BACK LIGHT UNIT, press the buttons to check that there are no uncomfortable feeling.
- Arrange BACK LIGHT UNIT cables as shown in the figure below.

10-pin ribbon cable:

– Fig. 1: Accordion-fold the cable at a 90-degree angle.
  * The cable should not exist on the hook, screws and bosses.

– Fig. 2: Fix the cable by FABRIC TAPE/20X120.
  * Cover the boss with the fabric tape.
  * The fabric tape should not exist on the hook and screw.

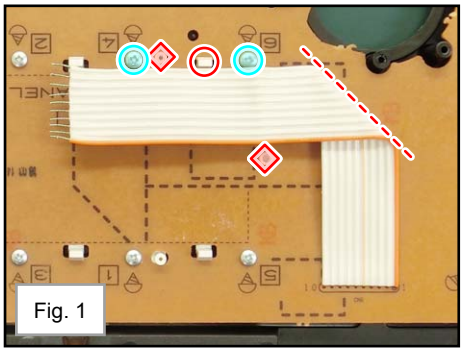


Fig. 1

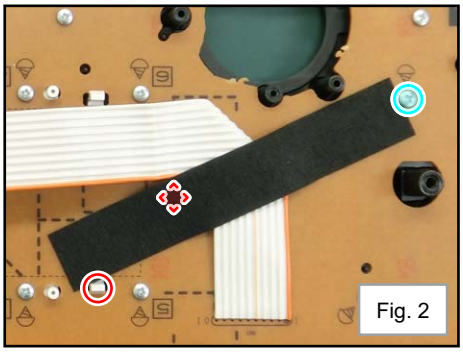
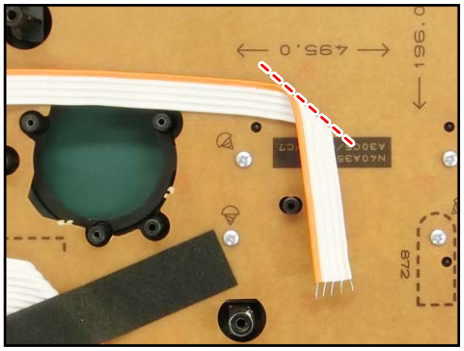


Fig. 2

: Screw | : Boss | : Hook

5-pin ribbon cable:

– Accordion-fold the cable at a 90-degree angle along the silk-printed dashed line.



■ Disassembly of the Backlight Block

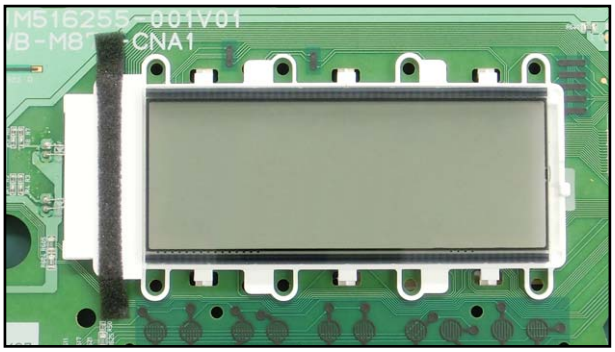
(1) Remove LCD (Ⓐ).

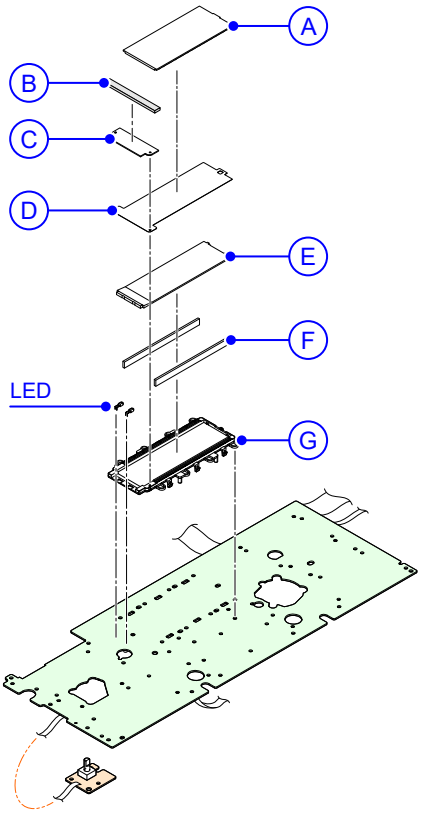
(2) Peel off SPONGE/8X75 (Ⓑ) and then remove TOP PIECE (Ⓒ), FILM (Ⓓ), BACK LIGHT PLATE (Ⓔ), and RUBBER CONNECTOR (x2, Ⓕ).

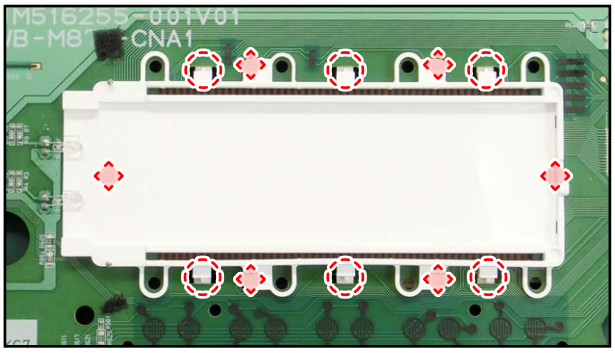
(3) Unhook the hook on the back surface of CNA1 PCB and remove REFLECTOR (Ⓖ).

NOTE: When removing REFLECTOR, check hook and boss of REFLECTOR are disengaged from the PCB.

NOTE: Remove the REFLECTOR not to apply load to LED as much as possible.
If the LED is bended, push the LED softly to adjust the position after the REFLECTOR is attached.

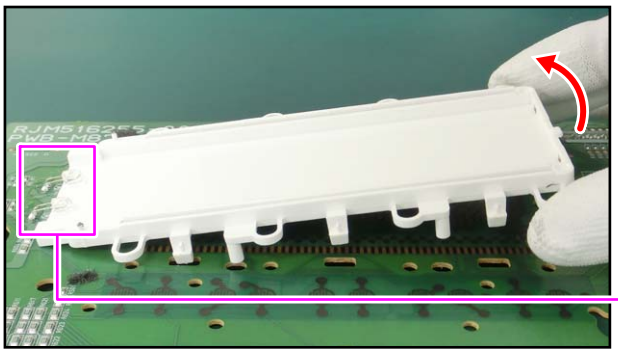


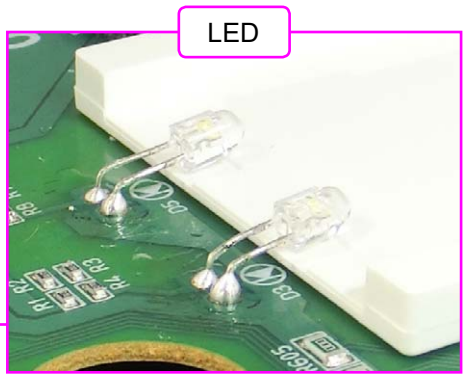




○ : Hook

◇ : Boss

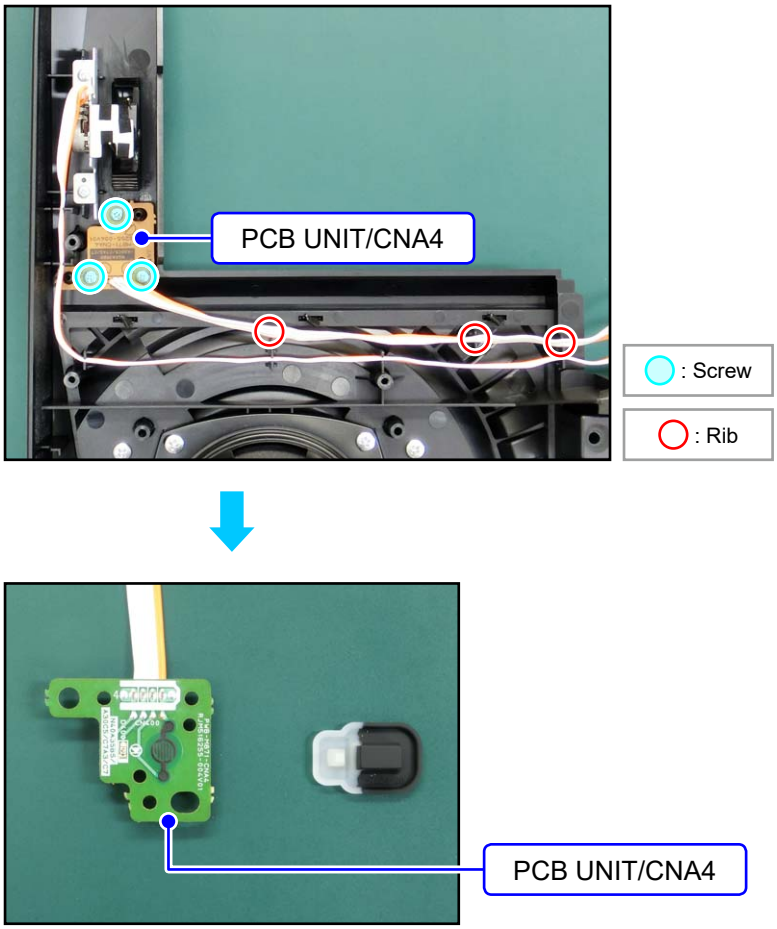




H. Removing the PCB UNIT/CNA4

H-1. Remove the CNA4 PCB cable from the ribs of left side panel.

H-2. Undo 3 screws and remove PCB UNIT/CNA4 and rubber key.



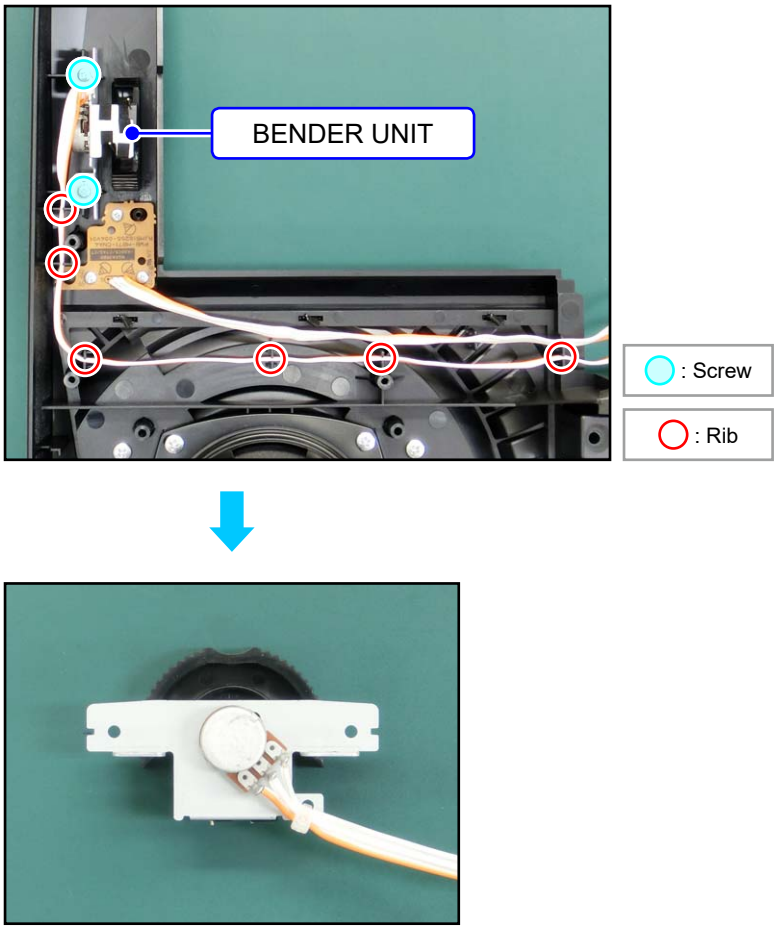
Notes on Assembly

- After assembling PCB UNIT/CNA4 press the button to check that there is no uncomfortable feeling.

I. Removing the BENDER UNIT

I-1. Remove the pitch bend cable from the ribs of left side panel.

I-2. Undo 2 screws and remove BENDER UNIT.

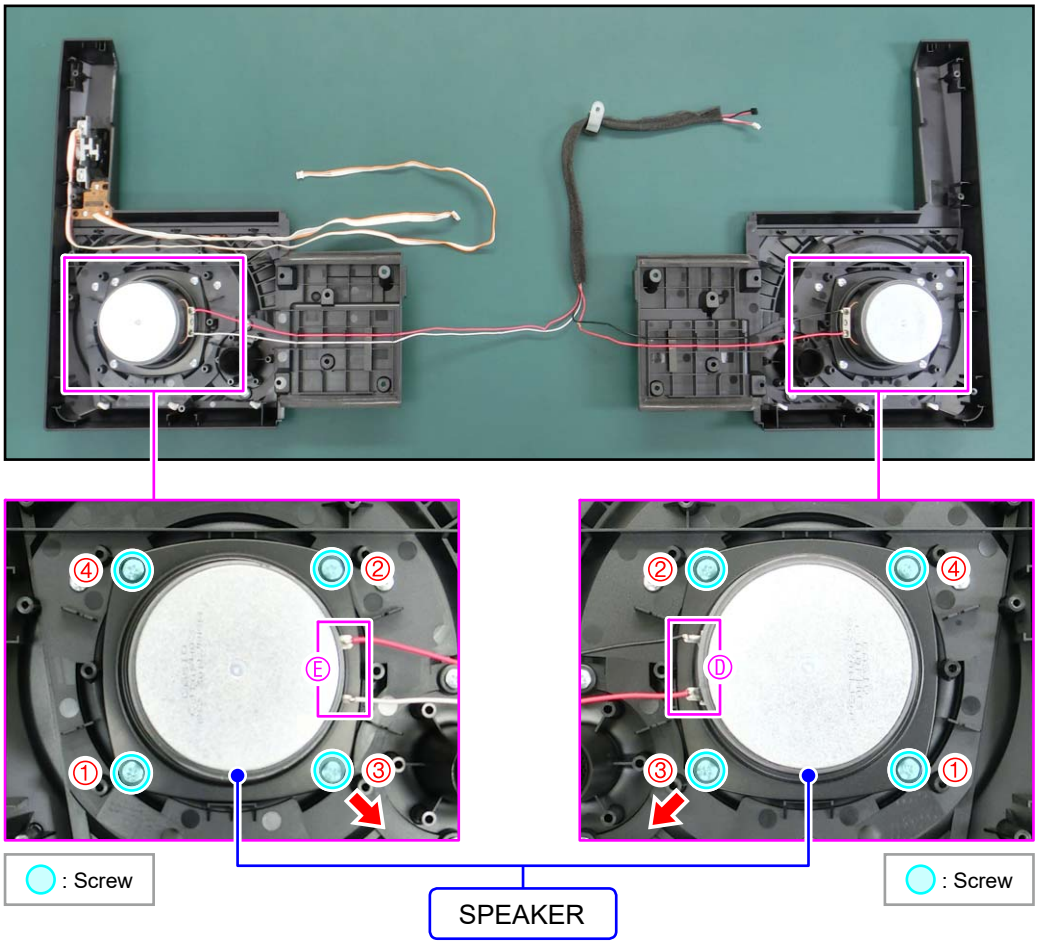


J. Removing the SPEAKER

J-1. Disconnect the following cable.

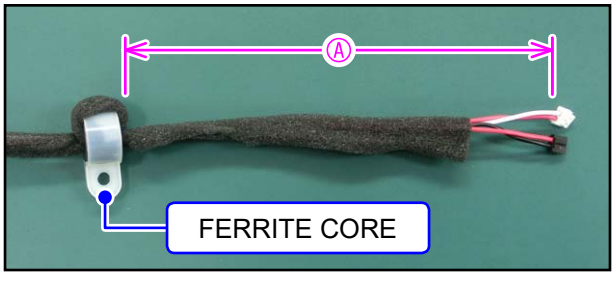
Cable / Remarks			Connected From
Ⓓ	2 lead wires	From the above: Black, red	MDA1 PCB
Ⓔ	2 lead wires	From the above: Red, white	MDA1 PCB

J-2. Undo 4 screws and remove SPEAKER.



Notes on Assembly

- Tighten the screws while pushing the speaker toward the arrow shown in the figure above. Tighten the screws in the sequence shown in the figure above.
- When the speaker cable has been replaced, bundle the left speaker cable and right speaker cable with SPONGE/35X360 as shown in the figure below.
  Also, attach the FERRITE CORE to the cable as shown in the figure below.
  (Ⓐ = Approx. 180 mm)
  * Wrap the cable around the ferrite core once.



■ Disassembly of the SPEAKER NET

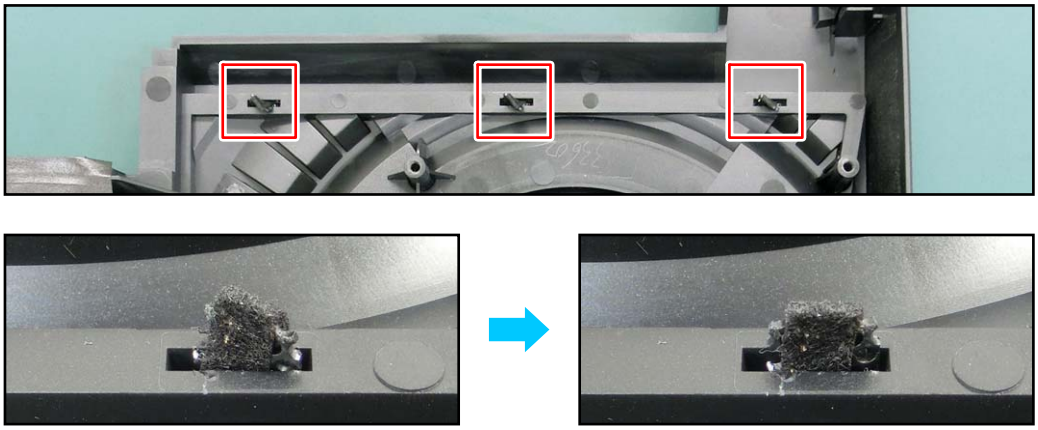
MEMO: The structure of left side panel and right side panel is basically the same.

(1) Twist six protruded parts of SPEAKER NET using a pliers and fit the protruded parts in the holes on the side panel.

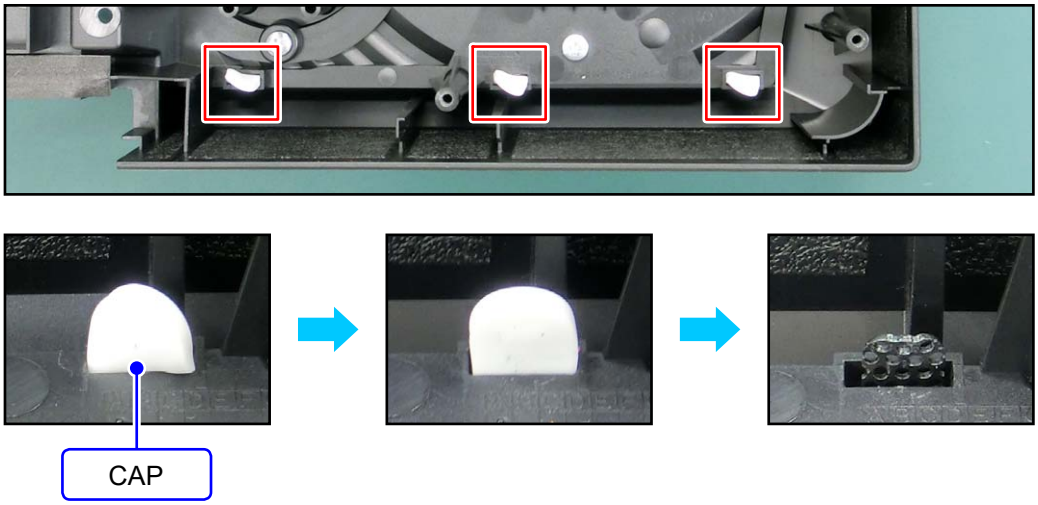
MEMO: The SPEAKER NET is fixed by twisting the protruded parts coming from the holes on the side panel.

(2) Remove 3 CAP from protruded parts (3 places) on the rear side of SPEAKER NET.

Protruded part on front side



Protruded part on rear side



Notes on Assembly

- Attach CAP before twisting the protruded parts after SPEAKER NET is assembled. When attaching CAP, push it to the back surely.
- If the protruded parts of SPEAKER NET are twisted excessively, they may get broken. Recommended twisting angle: 25 – 35 degrees

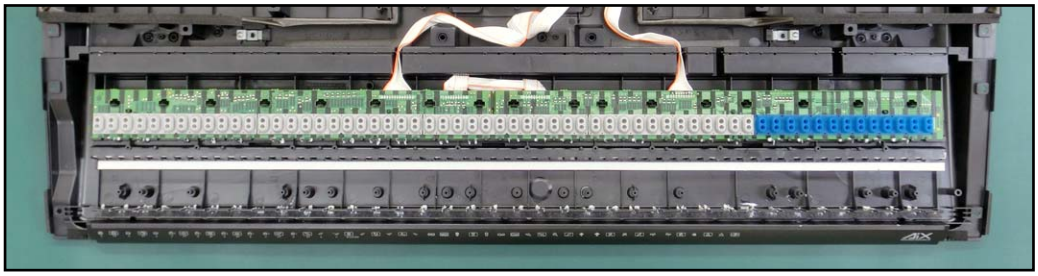
(3) Push SPEAKER NET from inside and remove SPEAKER NET (w/ FABRIC TAPE/5X16 (x3), FABRIC TAPE/10X60 (x7), FABRIC TAPE/20X10).

K. Removing the KEY

K-1. Remove the main panel, left side panel, and right side panel.
For disassembly procedure, refer to the applicable section.

K-2. Undo 21 screws and then remove the WHITE KEY and BLACK KEY.

: Screw



Notes on Assembly

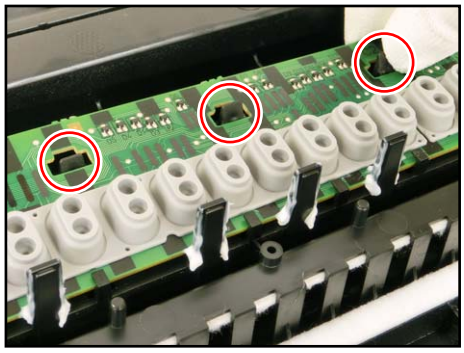
- After assembling KEY, press the keys to check that the keys move smoothly.

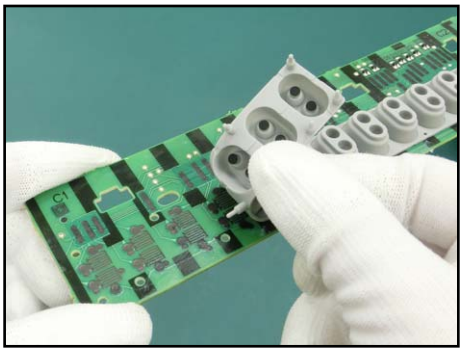
L. Removing the PCB UNIT/KEYBOARD/KYA

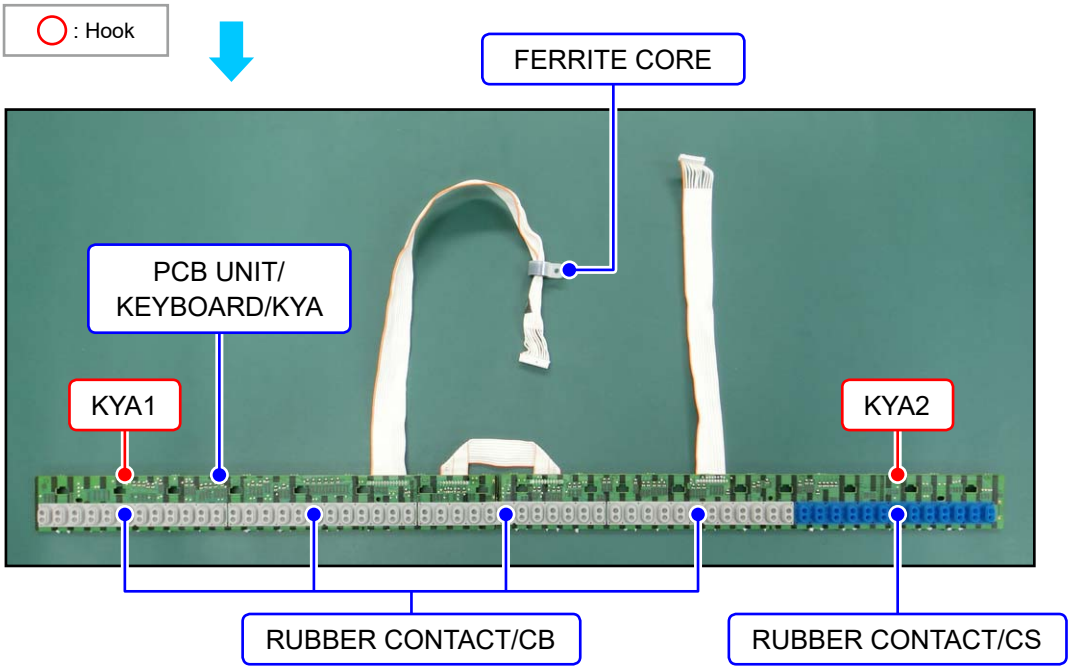
L-1. Unhook and remove PCB UNIT/KEYBOARD/KYA (w/ RUBBER CONTACT/CB, RUBBER CONTACT/CS).

L-2. Remove 4 RUBBER CONTACT/CB and RUBBER CONTACT/CS.

MEMO: RUBBER CONTACT/CS differs from the others in length.

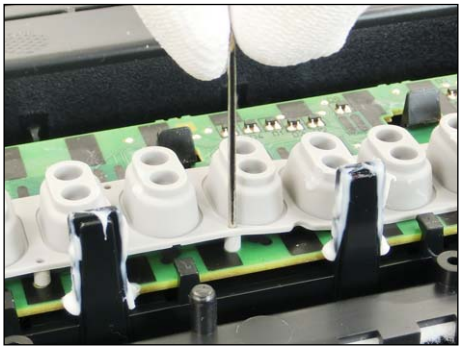




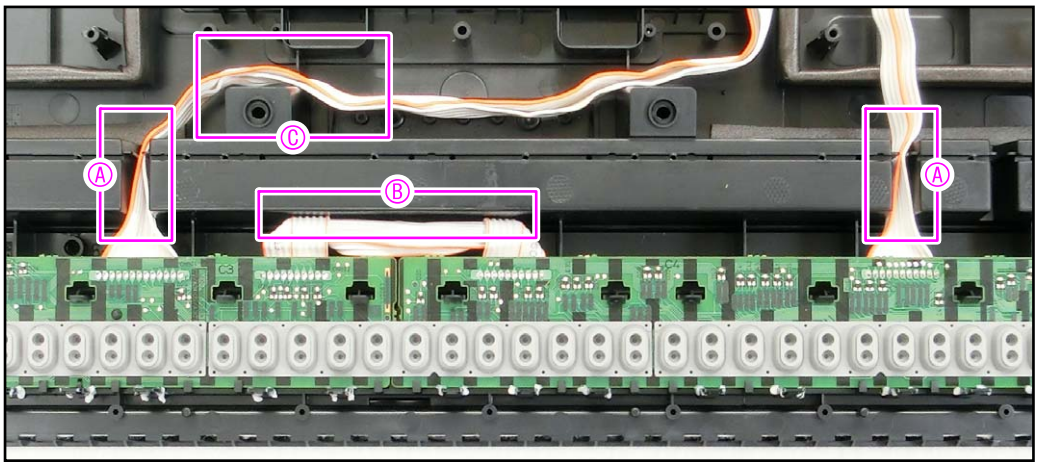


Notes on Assembly

- When PCB UNIT/KEYBOARD/KYA has been replaced, attach FERRITE CORE to the KYA1 PCB cable as shown in the figure above.
  * For the attaching position, refer to the removed parts.
- To install RUBBER CONTACT, lightly insert the tip of a rubber into the PCB first, and then press it in using the end of a paper clip.
  * Do not press with too much force.
    Doing so may damage the rubber.



• Arrange the KYA PCB cables as shown in the figure below.
  – Ⓐ Fold the cable in half.
  – Ⓑ Fold the edge of the cable toward the back.
    * The cable should not be higher than the PCB surface.
  – Ⓒ The cable should be arranged in the rib of lower case.

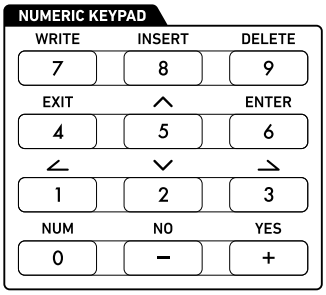


FUNCTION TEST

1. Overview

■ Test Items

To test this product, first launch the built-in diagnostic program.
Then, pressing a test button while on the main screen for the diagnostic program enables the corresponding test item to be tested.



No.	Item	Button	Necessary Items
A	Button Test	1	–
B	LCD Test	2	–
C	AC Adaptor Test	3	–
D	Pedal Test	4	SP-3 or SP-20 pedal (sold separately)
E	USB Test	4	PC, USB cable
F	USB Flash Drive Test	4	USB flash drive
G	LED Test	6	–
H	Model Test	9	–
I	ROM Version Check	9	–
J	Pitch Bend Test	+	–
K	Dial Test	+	–
L	Modulation Test	+	–
M	Speaker Test	5	–
N	RAM Test	8	–

MEMO: Testing requires the AC adaptor.

MEMO: For information about PC system requirements, refer to the User's Guide.

MEMO: Use the formatted USB memory whose file system is FAT32 format.
For how to format the USB flash drive, refer to the User's Guide.

2. Launching the Diagnostic Program

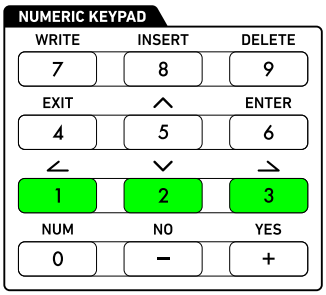
(1) Connect the AC adaptor.

(2) Adjust the sound volume so that it is at about 1/3 of the full volume.

(3) While holding down [1], [2], and [3] buttons, turn on the power.

NOTE: Hold down the 3 buttons until the diagnostic program launches. (approx. 5 sec.)

NOTE: Be sure to turn off the power when the test is finished. To turn off the power, hold down [⏻] button until the screen shuts down.



(4) When the diagnostic program is launched, the following main screen appears.
Release the buttons.

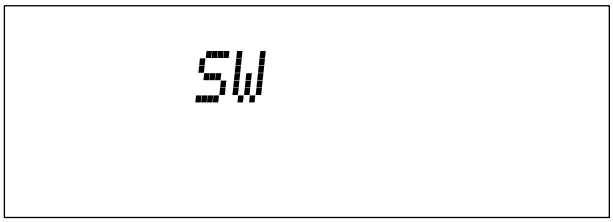
3. Test Procedure

A. Button Test

NOTE: Check there is no uncomfortable feeling when pressing the button.
If the button gets lodged or does not return to the correct position, evaluate the test as NG.

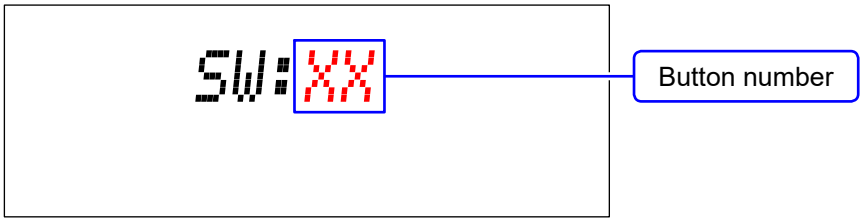
NOTE: To test [MODULATION/ASSIGNABLE] button, preform “Modulation Test”.

A-1. Press [1] button to display the following screen.

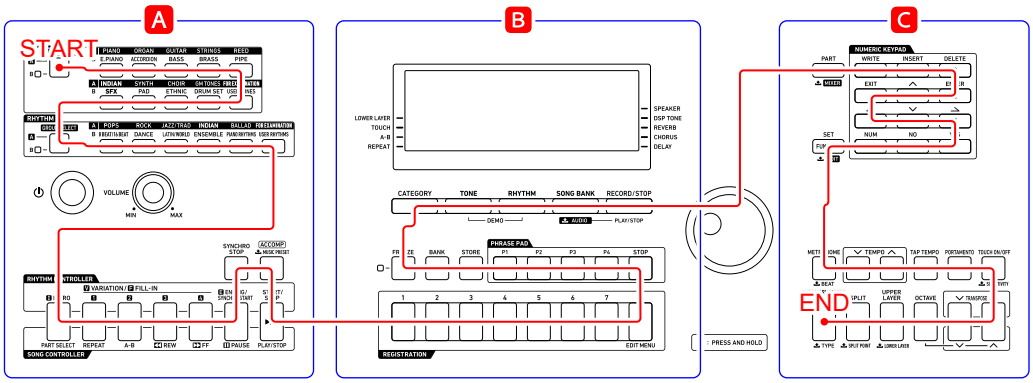


A-2. Press the buttons in the sequence to check that the keys operate properly.
For the button sequence, refer to the following figure.

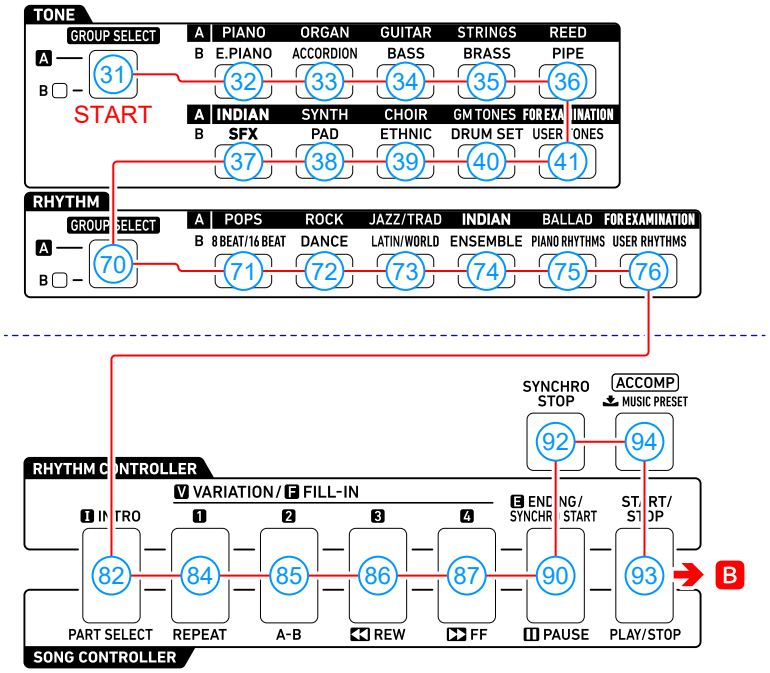
- **OK:** The confirmation tone (cowbell) sounds, and “SW :” and “button number (XX)” appear. When press the last button, the completion tone sounds, and “OK :” and “button number (XX)” appear.
- **NG:** If the buttons are pressed in a wrong sequence, the error tone sounds, and “SW :” and “button number (XX)” appear.



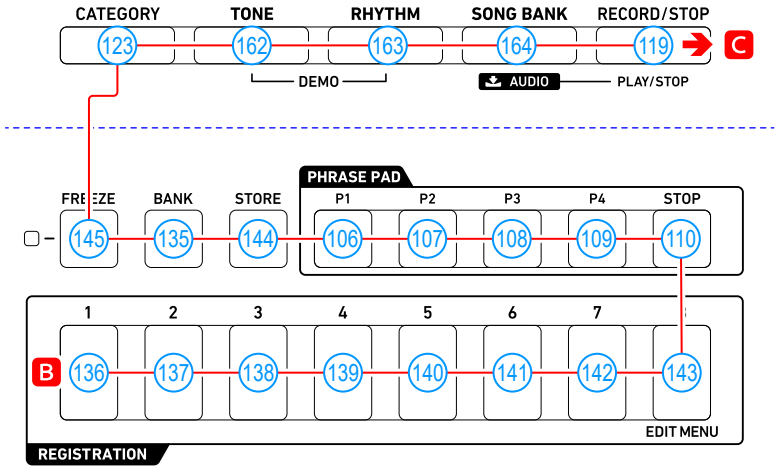
Overall view: Sequence of the button to press



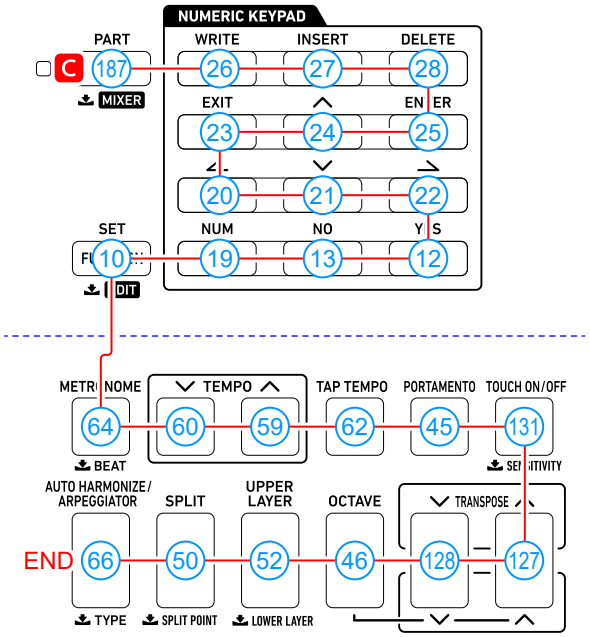
Button number: A – Left area



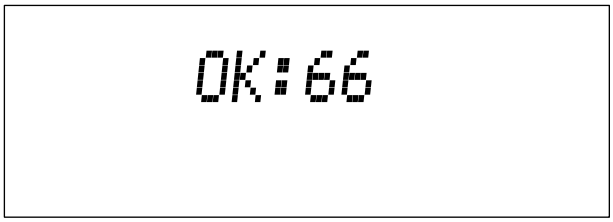
Button number: B – Center area



Button number: C – Right area



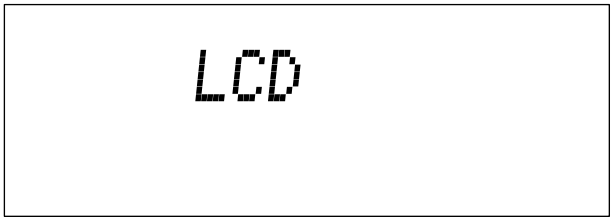
A-3. Check that the following screen appears when you press the last button in the sequence.



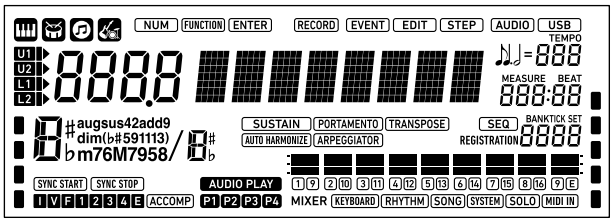
A-4. Press [0] button twice to return to the main screen.

B. LCD Test

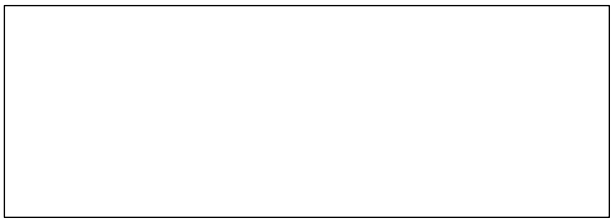
B-1. Press [2] button to display the following screen.



B-2. Press [2] button and check that all segments are lit.



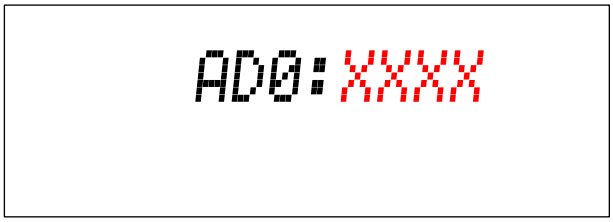
B-3. Press [2] button and check that all segments are turned off.



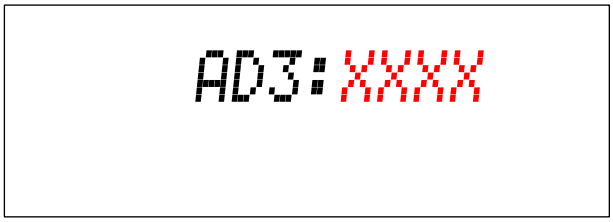
B-4. Press [0] button to return to the main screen.

C. AC Adaptor Test

C-1. Press [3] button and check that the AD0 value is between “0000” and “1023”.



C-2. Press [3] button and check that the AD3 value is between “0000” and “1023”.

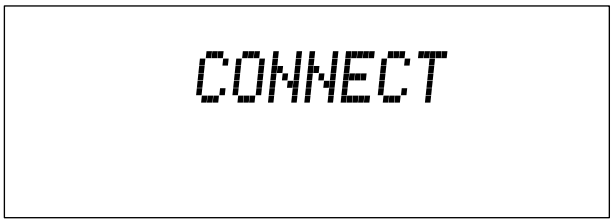


C-3. Press [0] button twice to return to the main screen.

D. Pedal Test

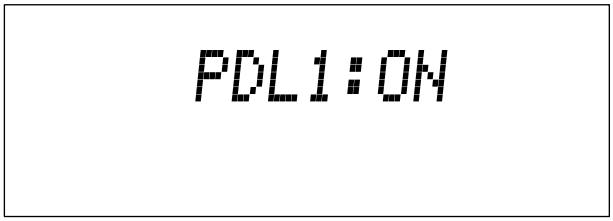
NOTE: This test cannot be performed without a pedal.

D-1. Press [4] button to display the following screen.

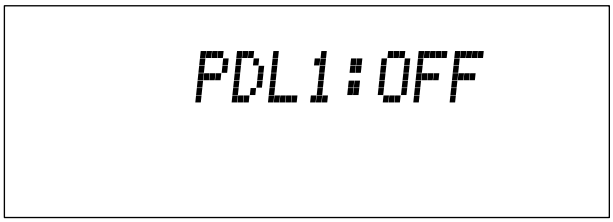


D-2. Connect the pedal to the PEDAL1 jack.

D-3. Press the pedal and check that the following screen appears.

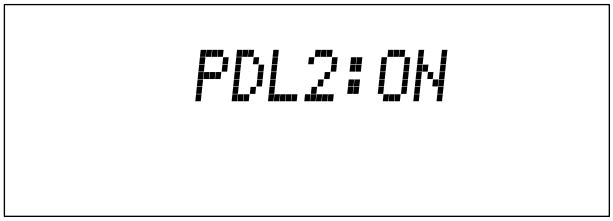


D-4. Release the pedal and check that the following screen appears.



D-5. Disconnect the pedal from the digital keyboard and connect the pedal to the PEDAL2 jack.

D-6. Press the pedal and check that the following screen appears.



D-7. Release the pedal and check that the following screen appears.

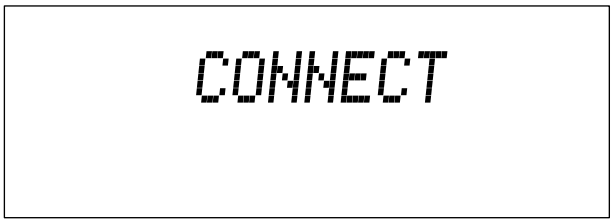
D-8. Disconnect the pedal from the digital keyboard.

D-9. Press [0] button to return to the main screen.

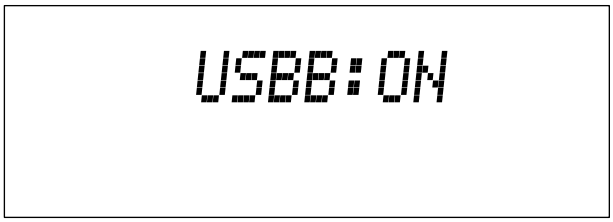
E. USB Test

NOTE: This test cannot be performed without a PC and USB cable.

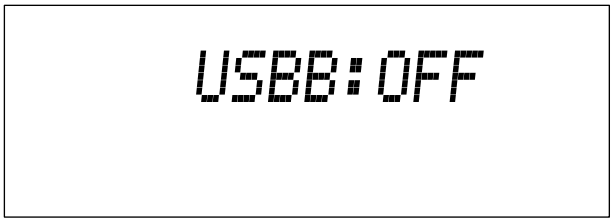
E-1. Press [4] button to display the following screen.



E-2. Connect the USB port of digital keyboard and PC with a USB cable, and then check that the following screen appears.



E-3. Disconnect the USB cable from the digital keyboard and check that the following screen appears.



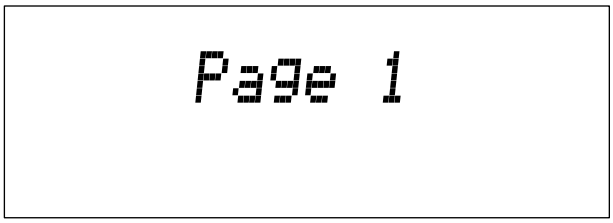
E-4. Press [0] button to return to the main screen.

F. USB Flash Drive Test

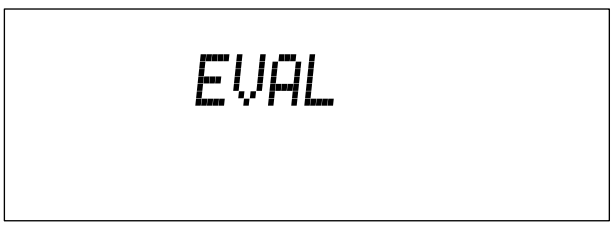
NOTE: This test cannot be performed without a USB flash drive.

F-1. Insert a USB flash drive into the USB flash drive port.

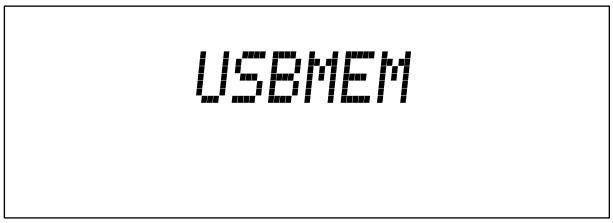
F-2. Press [+] button to display the following screen.



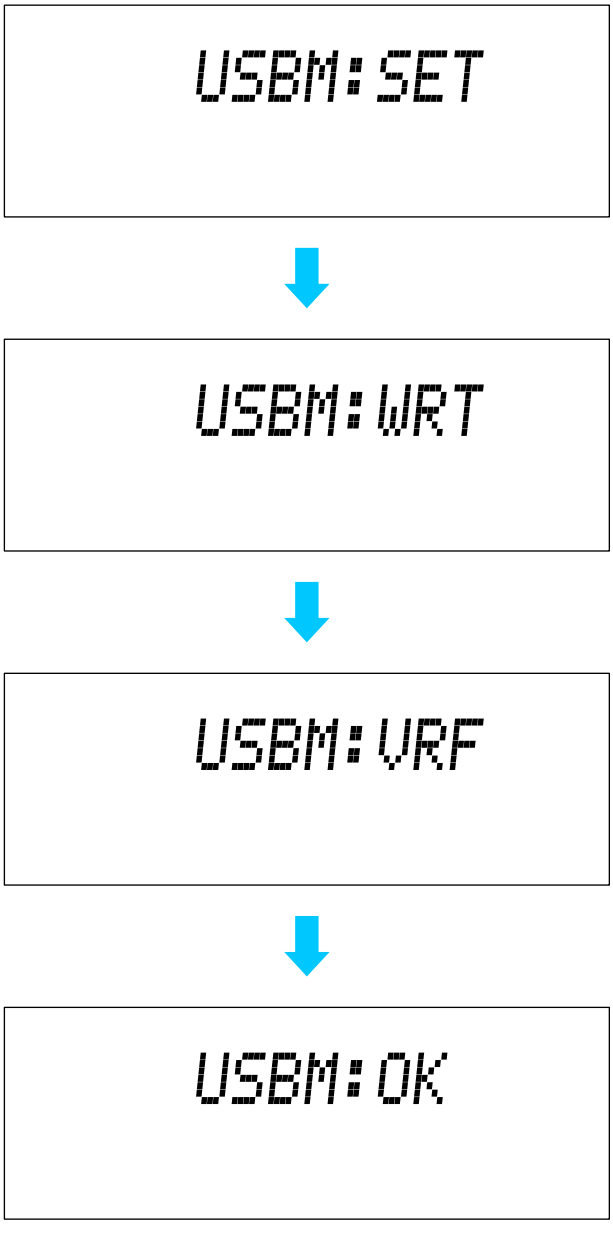
F-3. Press [1] button to display the following screen.



F-4. Press [2] button to display the following screen.



F-5. Press [+] button to begin the test and check that the screen changes as figure below.

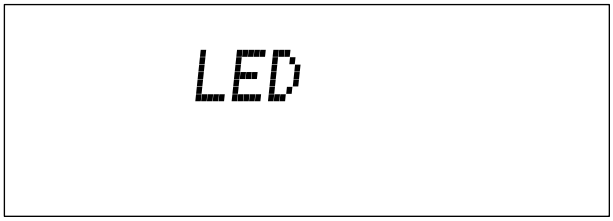


F-6. Press [0] button twice to return to the main screen.

F-7. Remove the USB flash drive from the digital keyboard.

G. LED Test

G-1. Press [6] button to display the following screen.



G-2. Check that the LED is lit in red in the following order each time you press [6] button.

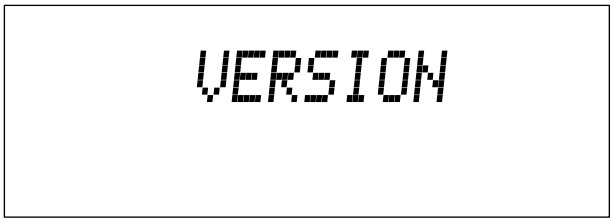
No.	LED
1	TONE B
2	RHYTHM B
3	MODULATION/ASSIGNABLE
4	FREEZE
5	REGISTRATION 1
6	REGISTRATION 2
7	REGISTRATION 3

No.	LED
8	REGISTRATION 4
9	REGISTRATION 5
10	REGISTRATION 6
11	REGISTRATION 7
12	REGISTRATION 8
13	PART

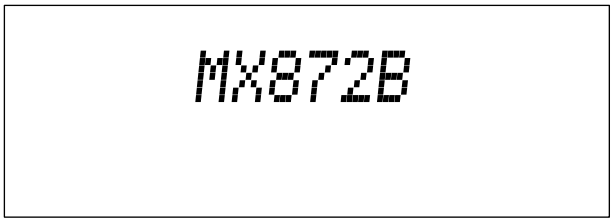
G-3. Press [0] button to return to the main screen.

H. Model Test

H-1. Press [9] button to display the following screen.



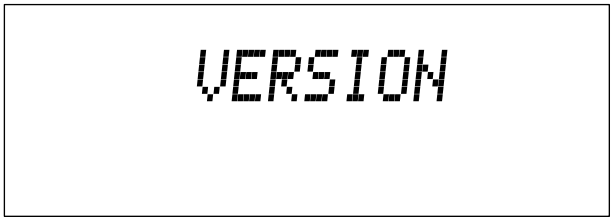
H-2. Press [9] button and check that the model name is “MX872B”.



H-3. Press [0] button to return to the main screen.

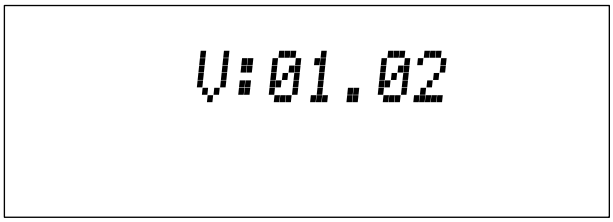
I. ROM Version Check (This item is not an inspection)

I-1. Press [9] button to display the following screen.



I-2. Press [9] button twice to display the ROM version.

NOTE: The displayed ROM version may differ depending on the individual products. (The figure shown below indicates an example of display)

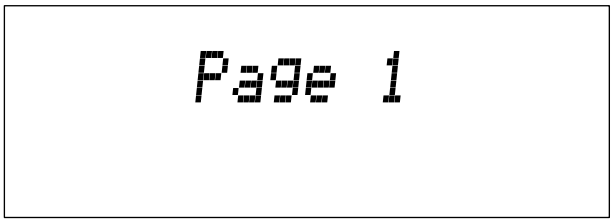


I-3. Press [0] button to return to the main screen.

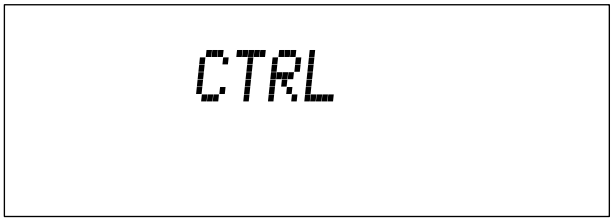
J. Pitch Bend Test

NOTE: Check that the pitch bend wheel rotates smoothly.
If you feel a catch in the pitch bend wheel or it does not rotate smoothly, evaluate the test as NG.

J-1. Press [+] button to display the following screen.

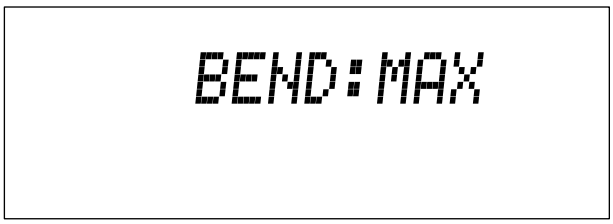


J-2. Press [3] button to display the following screen.



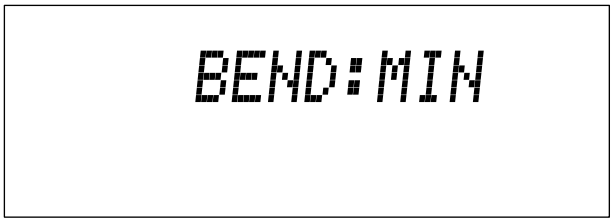
J-3. Rotate the pitch bend wheel all the way up, and check that the following screen appears.

MEMO: The confirmation tone (cowbell) sounds.



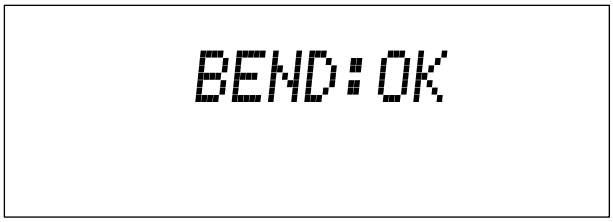
J-4. Rotate the pitch bend wheel all the way down, and check that the following screen appears.

MEMO: The confirmation tone (cowbell) sounds.



J-5. Return the pitch bend wheel to the original position, and check that the following screen appears.

MEMO: The confirmation tone (triangle) sounds.

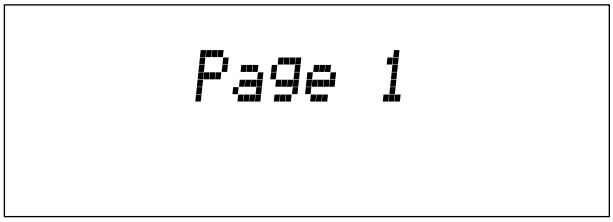


J-6. Press [0] button to return to the main screen.

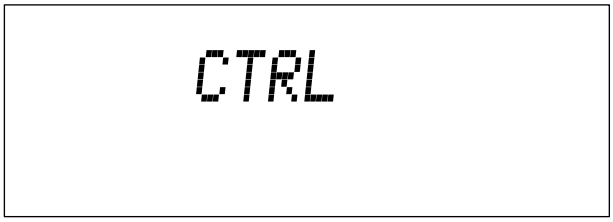
K. Dial Test

NOTE: Check that the dial rotates smoothly.
If you feel a catch in the dial or it does not rotate smoothly, evaluate the test as NG.

K-1. Press [+] button to display the following screen.

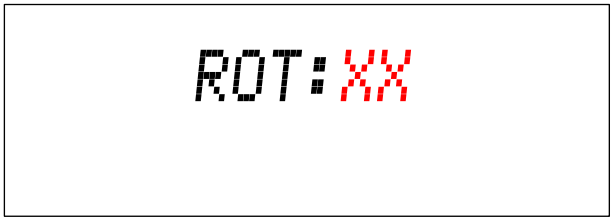


K-2. Press [3] button to display the following screen.



K-3. Rotate the dial clockwise by one turn or more and check that the ROT value changes correctly.

NOTE: The dial position at the beginning of the test is “0”.
The value increases to “24” as the dial makes one turn.



K-4. Rotate the dial counter-clockwise by one turn or more and check that the value changes correctly.

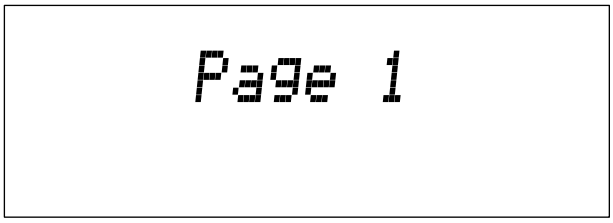
NOTE: When rotating the dial counter-clockwise, the value becomes a negative value.

K-5. Press [0] button to return to the main screen.

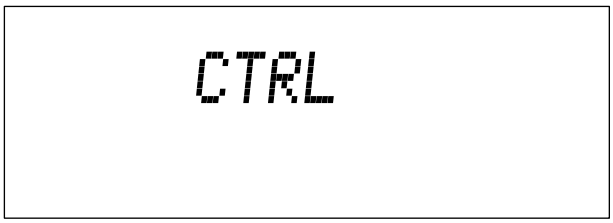
L. Modulation Test

NOTE: Check there is no uncomfortable feeling when pressing the button.
If the button gets lodged or does not return to the correct position, evaluate the test as NG.

L-1. Press [+] button to display the following screen.

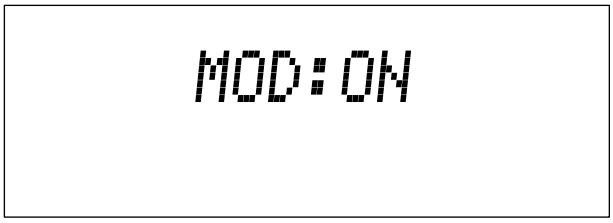


L-2. Press [3] button to display the following screen.

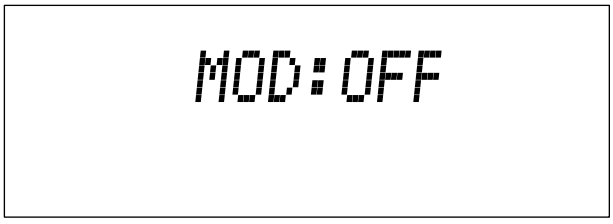


L-3. Press [MODULATION/ASSIGNABLE] button and check that the following screen appears.

MEMO: While the button is pressed, the screen shown below is displayed and [MODULATION/ASSIGNABLE] LED is lit in red.



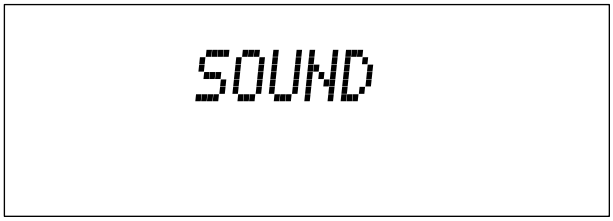
L-4. Release [MODULATION/ASSIGNABLE] button and check that the following screen appears.



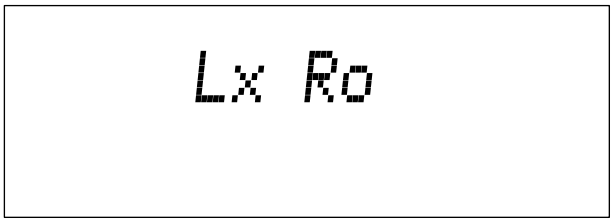
L-5. Press [0] button to return to the main screen.

M. Speaker Test

M-1. Press [5] button to display the following screen.



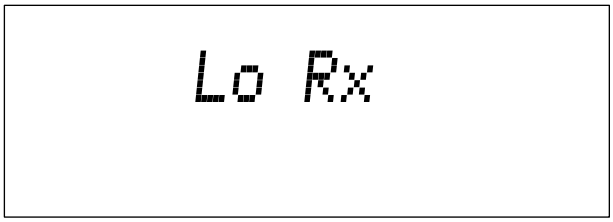
M-2. Press [8] button to display the following screen.



M-3. Press any key and check that only the right speaker sounds.

MEMO: The volume setting is temporarily disabled and the speaker sounds at a constant sound volume.

M-4. Press [8] button to display the following screen.



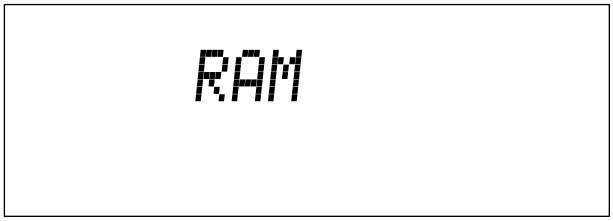
M-5. Press any key and check that only the left speaker sounds.

MEMO: The volume setting is temporarily disabled and the speaker sounds at a constant sound volume.

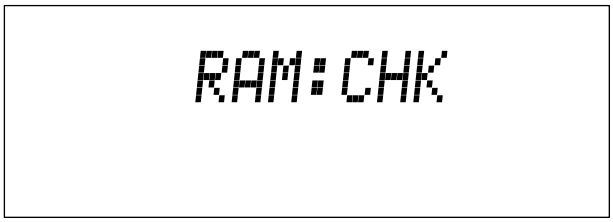
M-6. Press [0] button to return to the main screen.

N. RAM Test

N-1. Press [8] button to display the following screen.



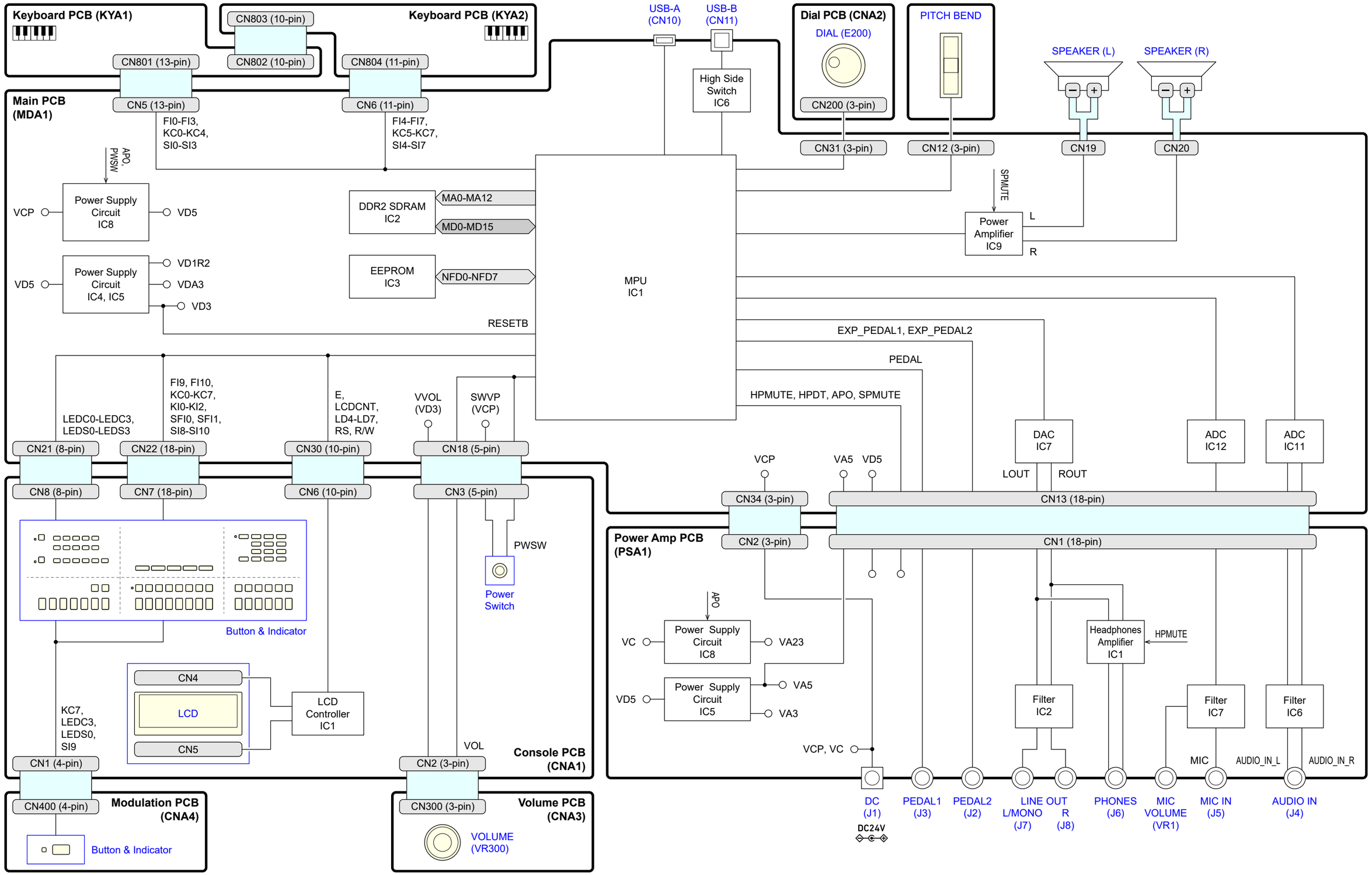
N-2. Press [8] button to begin the test.



N-3. Check that the following screen appears.

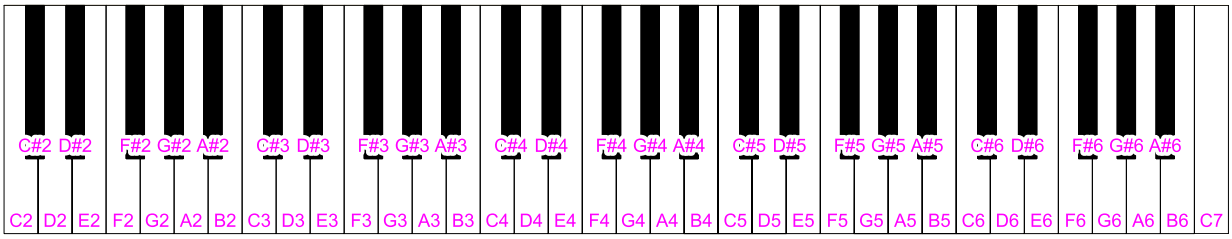
N-4. Turn off the power by holding down [⏻] button until the screen shuts down.
MEMO: It is not possible to return to the main screen.

BLOCK AND WIRING DIAGRAM



CIRCUIT DESCRIPTION

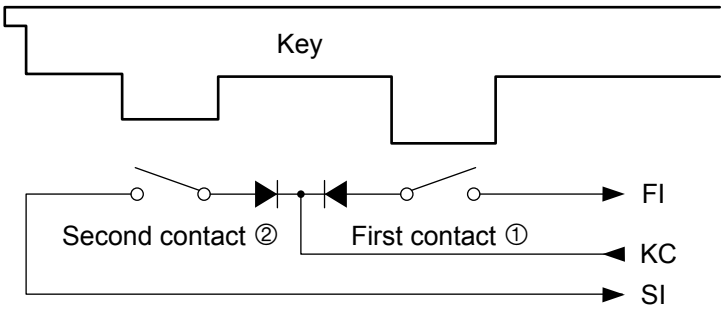
■ Nomenclature of Keys



■ Key Matrix

Each key has two contacts, the first contact ① and second contact ②.

NOTE: The diagram below illustrates how the contacts work.



	KC0	KC1	KC2	KC3	KC4	KC5	KC6	KC7
FI0	C2①	C2#①	D2①	D2#①	E2①	F2①	F2#①	G2①
SI0	C2②	C2#②	D2②	D2#②	E2②	F2②	F2#②	G2②
FI1	G2#①	A2①	A2#①	B2①	C3①	C3#①	D3①	D3#①
SI1	G2#②	A2②	A2#②	B2②	C3②	C3#②	D3②	D3#②
FI2	E3①	F3①	F3#①	G3①	G3#①	A3①	A3#①	B3①
SI2	E3②	F3②	F3#②	G3②	G3#②	A3②	A3#②	B3②
FI3	C4①	C4#①	D4①	D4#①	E4①	F4①	F4#①	G4①
SI3	C4②	C4#②	D4②	D4#②	E4②	F4②	F4#②	G4②
FI4	G4#①	A4①	A4#①	B4①	C5①	C5#①	D5①	D5#①
SI4	G4#②	A4②	A4#②	B4②	C5②	C5#②	D5②	D5#②
FI5	E5①	F5①	F5#①	G5①	G5#①	A5①	A5#①	B5①
SI5	E5②	F5②	F5#②	G5②	G5#②	A5②	A5#②	B5②
FI6	C6①	C6#①	D6①	D6#①	E6①	F6①	F6#①	G6①
SI6	C6②	C6#②	D6②	D6#②	E6②	F6②	F6#②	G6②
FI7	G6#①	A6①	A6#①	B6①	C7①			
SI7	G6#②	A6②	A6#②	B6②	C7②			

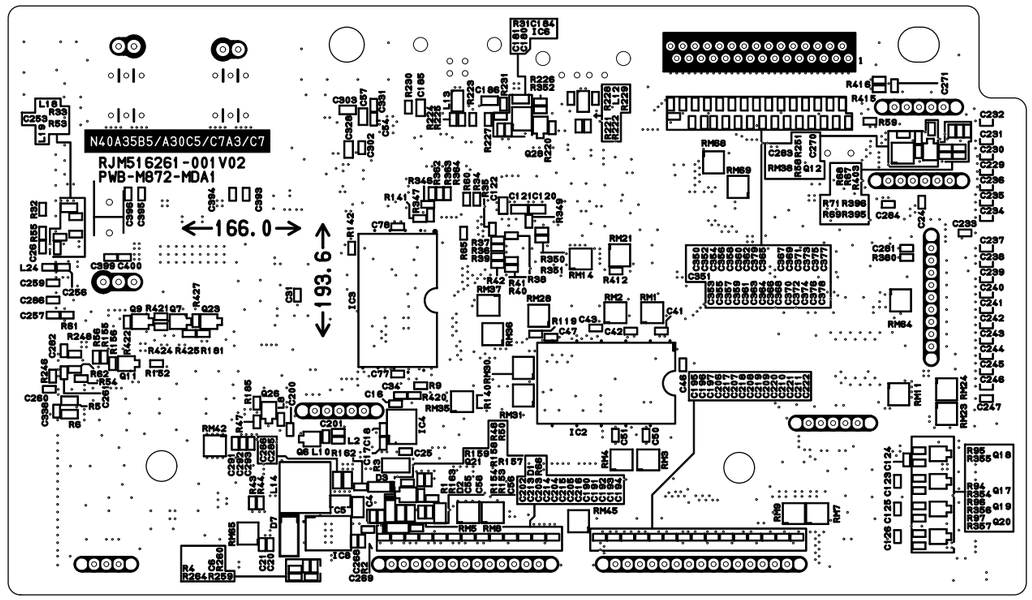
■ Button Matrix

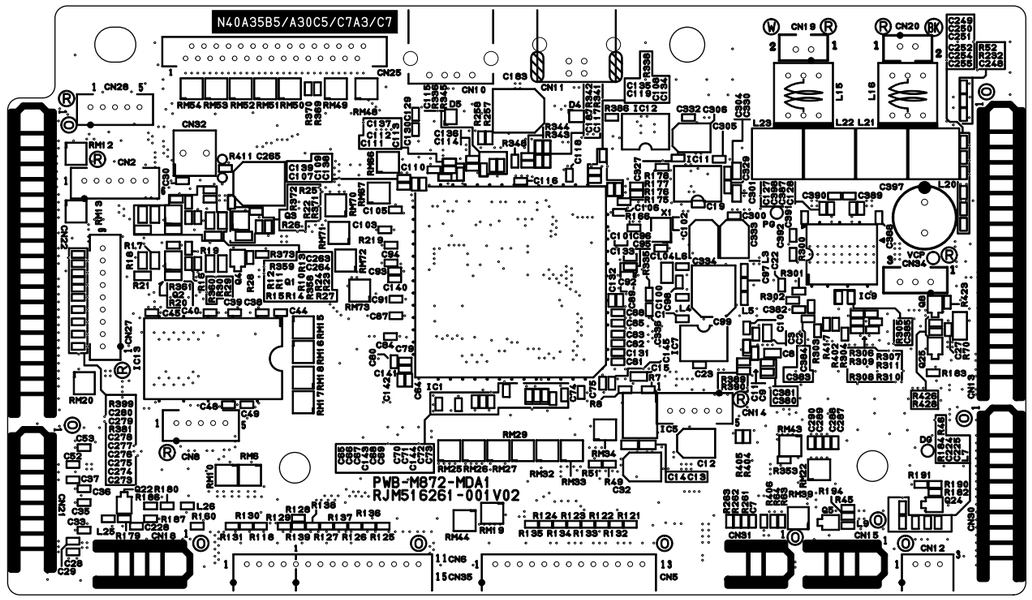
	KI0	KI1	KI2	SFI0	SFI1
KC0	INTRO, PART SELECT	CATEGORY	PHRASE PAD P1	REGISTRATION 3	TEMPO ⌄
KC1	VARIATION/FILL-IN 1, REPEAT	RHYTHM	PHRASE PAD P2	REGISTRATION 4	FUNCTION, SET, ⬇ EDIT
KC2	VARIATION/FILL-IN 2, A–B	SONG BANK, ⬇ AUDIO	PHRASE PAD P3	REGISTRATION 5	PART, ⬇ MIXER
KC3	VARIATION/FILL-IN 3, ◀◀ REW	RECORD/STOP, AUDIO PLAY/STOP	PHRASE PAD P4	REGISTRATION 6	1
KC4	VARIATION/FILL-IN 4, ▶▶ FF	FREEZE	REGISTRATION 7	REGISTRATION 1	7
KC5	ENDING/SYNCHRO START, ⬇ PAUSE	BANK	REGISTRATION 8	REGISTRATION 2	8
KC6	SYNCHRO STOP	STORE	TRANSPOSE ⌄	STOP	4
KC7	ACCOMP, ⬇ MUSIC PRESET	START/STOP, PLAY/STOP	TONE	TRANSPOSE ⌃	5

	FI9	FI10	SI8	SI9	SI10
KC0	RHYTHM GROUP SELECT	METRONOME, ⬇ BEAT	TONE GROUP SELECT		AUTO HARMONIZE/ ARPEGGIATOR, ⬇ TYPE
KC1	POPS, 8 BEAT/16 BEAT	TEMPO ∧	PIANO, E.PIANO	INDIAN, SFX	SPLIT, ⬇ SPLIT POINT
KC2	ROCK, DANCERS	TAP TEMPO	ORGAN, ACCORDION	SYNYH, PAD	UPPER LAYER, ⬇ LOWER LAYER
KC3	JAZZ/TRAD, LATIN/WORLD	0	GUITAR, BASS	CHOIR, ETHNIC	OCTAVE
KC4	INDIAN, ENSEMBLE	–	STRINGS, BRASS	GM TONES, DRUM SET	PORTAMENTO
KC5	BALLAD, PIANO RHYTHMS	2	REED, PIPE	FOR EXAMINATION, USER TONES	TOUCH ON/OFF, ⬇ SENSITIVITY
KC6	FOR EXAMINATION, USER RHYTHMS	9			+
KC7		6			3

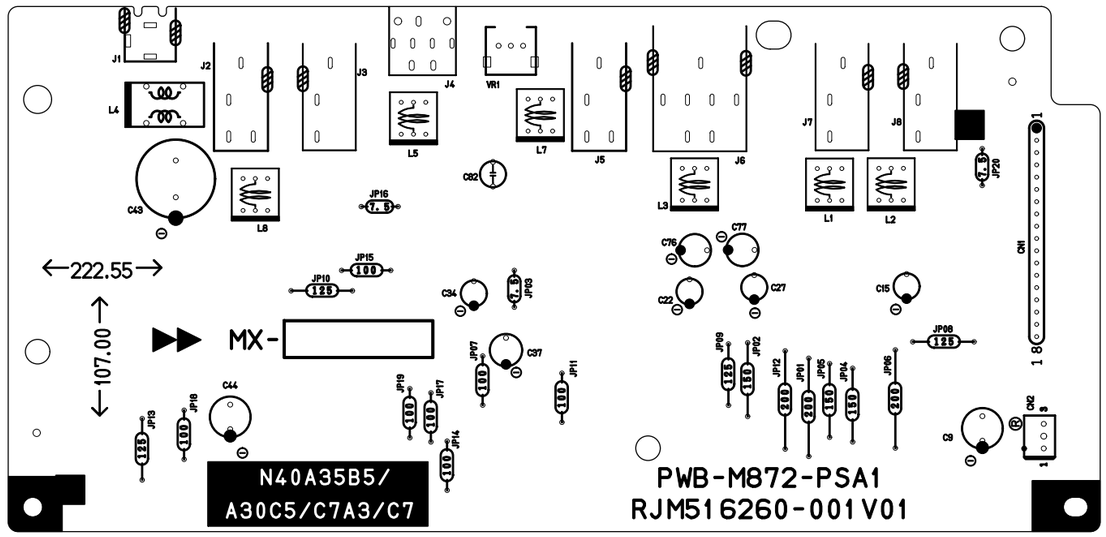
PRINTED CIRCUIT BOARDS

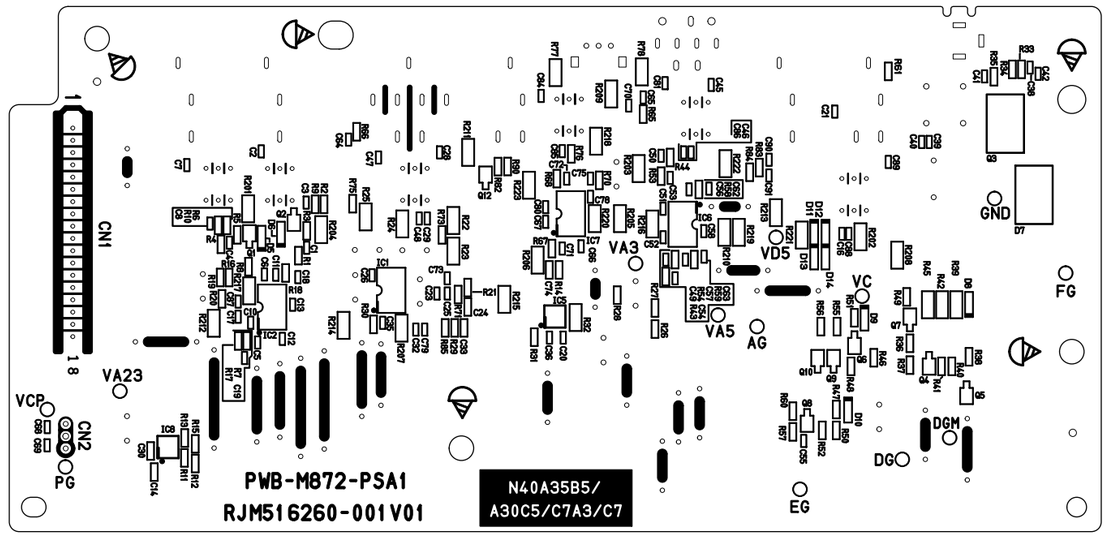
Main PCB: M872-MDA1



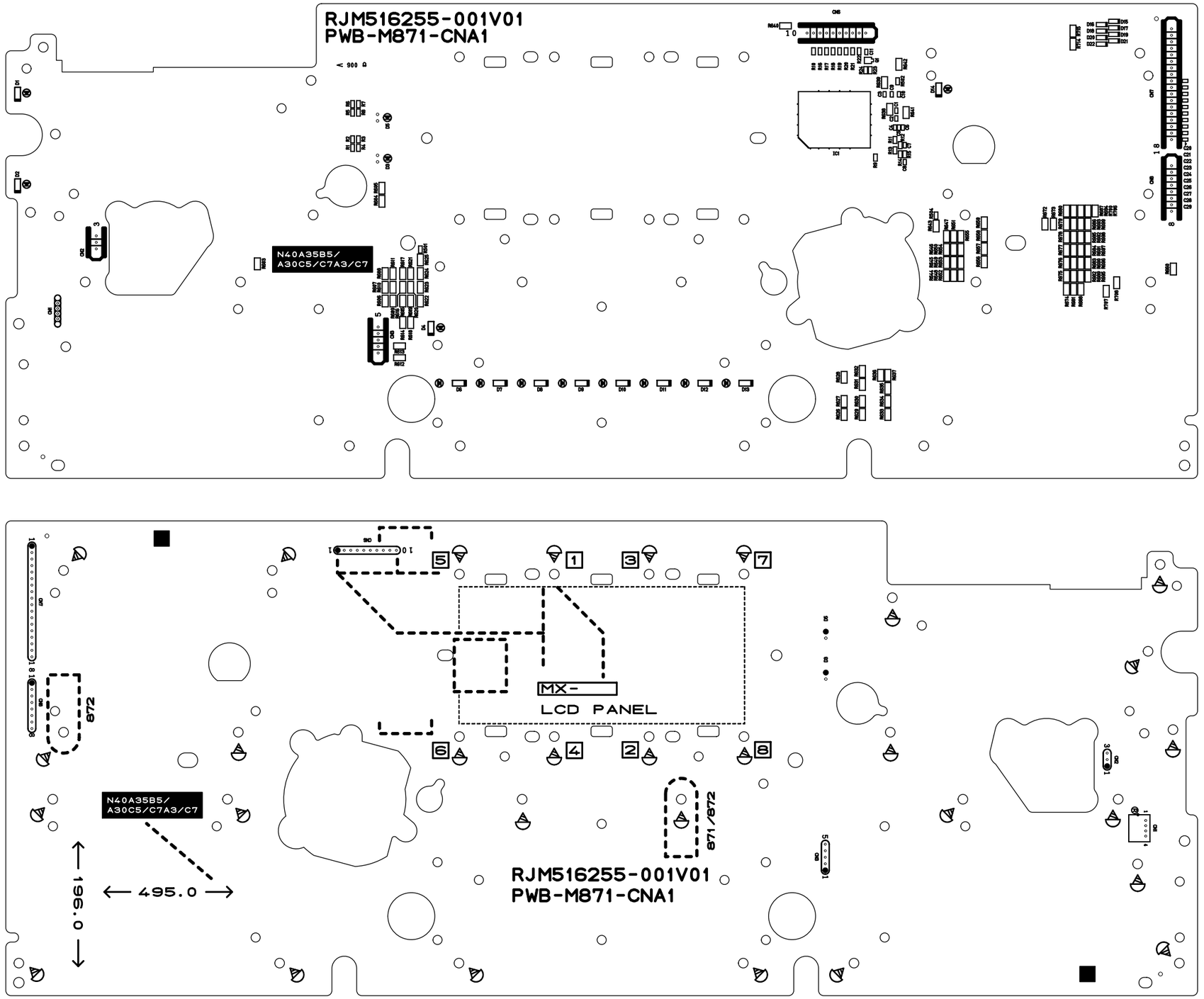


Power Amp PCB: M872-PSA1

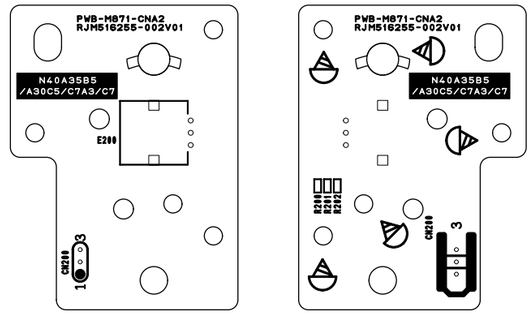




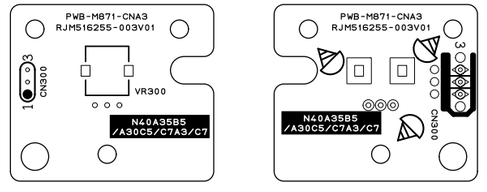
Console PCB: M871-CNA1



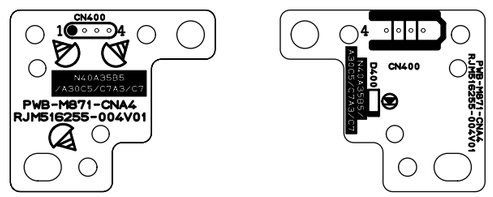
Dial PCB: M871-CNA2



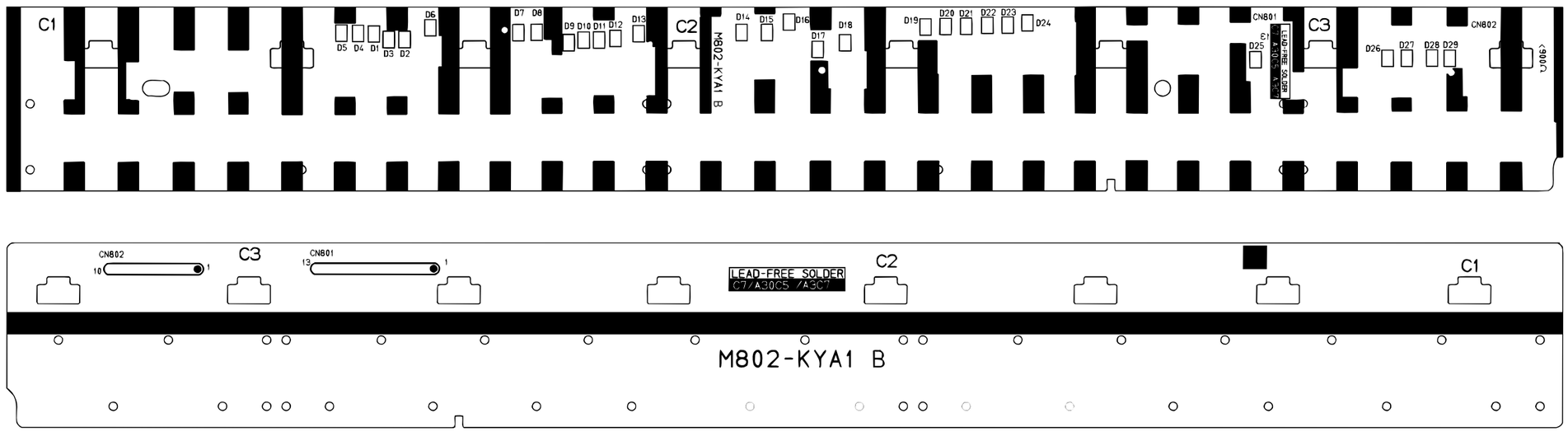
Volume PCB: M871-CNA3



Modulation PCB: M871-CNA4



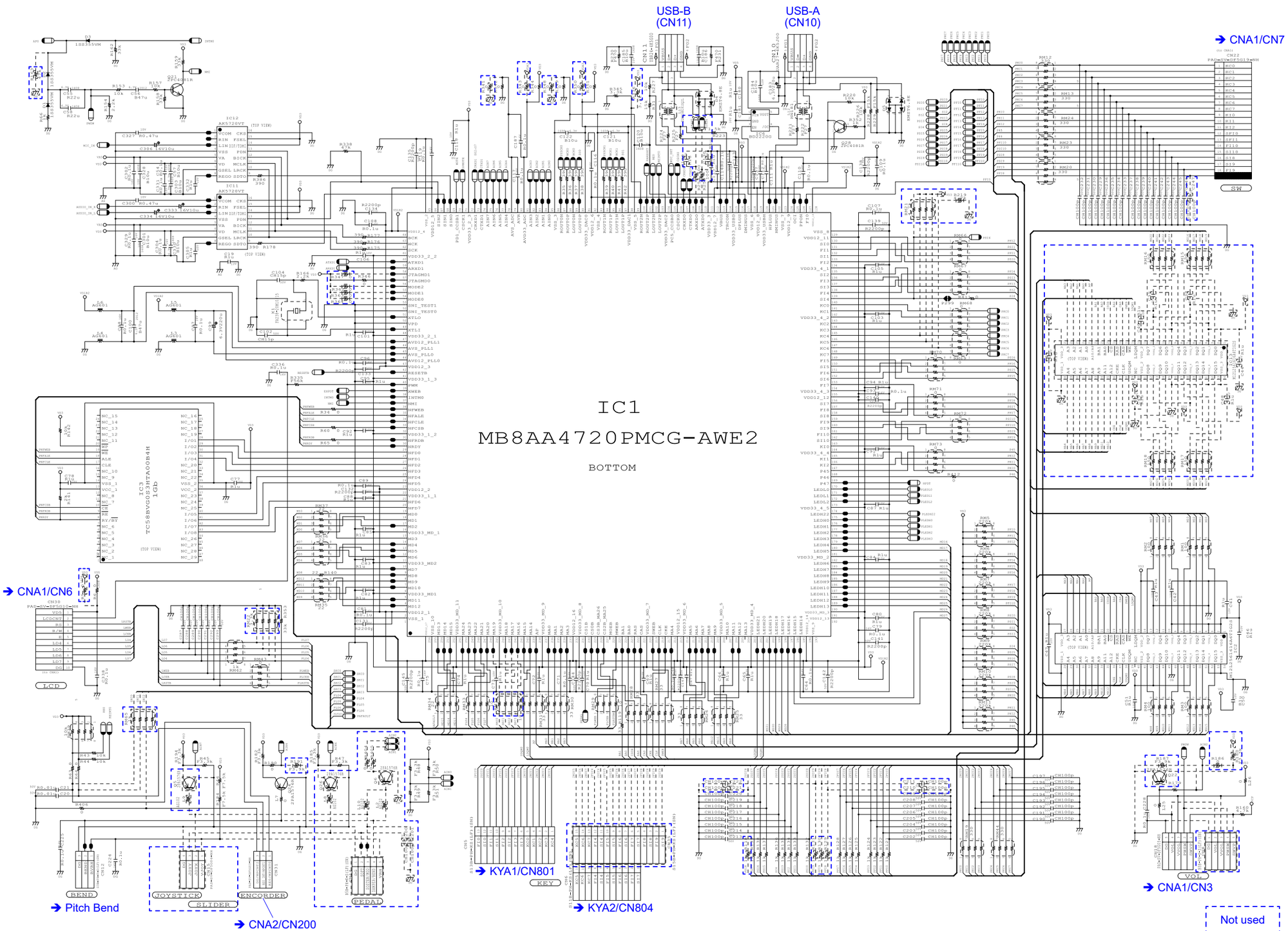
Keyboard PCB: M802-KYA1



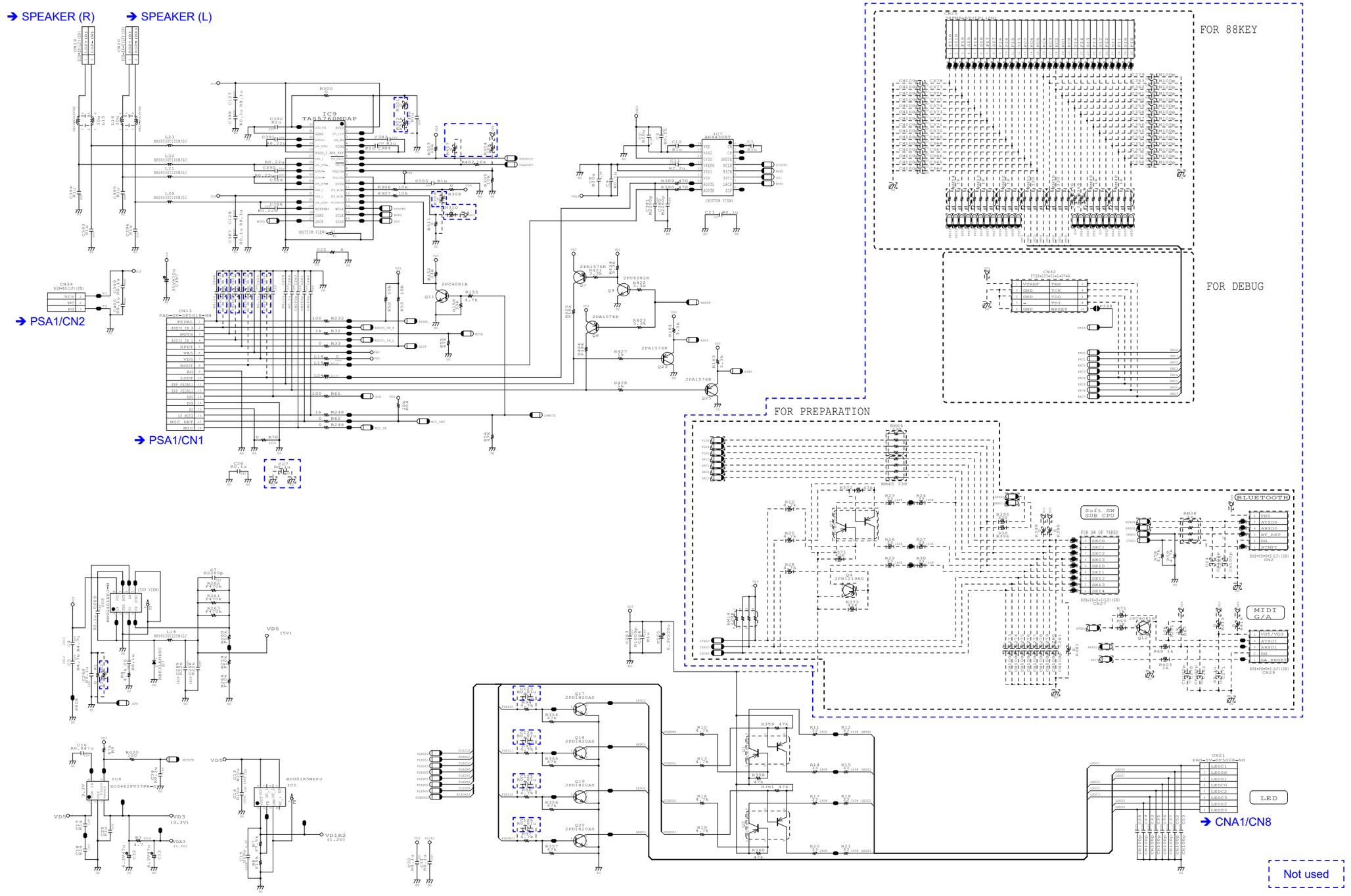
Keyboard PCB: M802-KYA2

SCHEMATIC DIAGRAMS

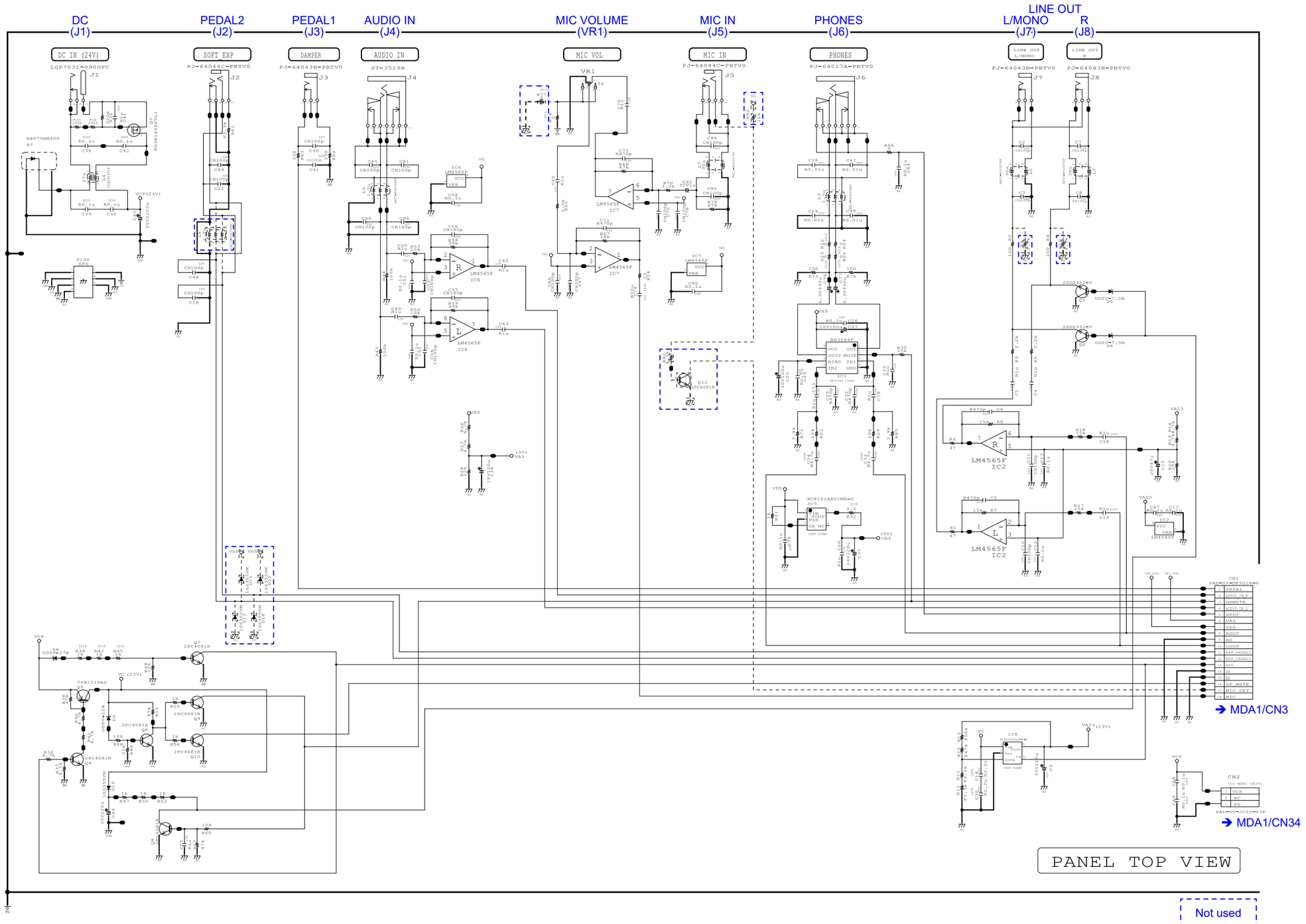
Main PCB: M872-MDA1 (1/2)



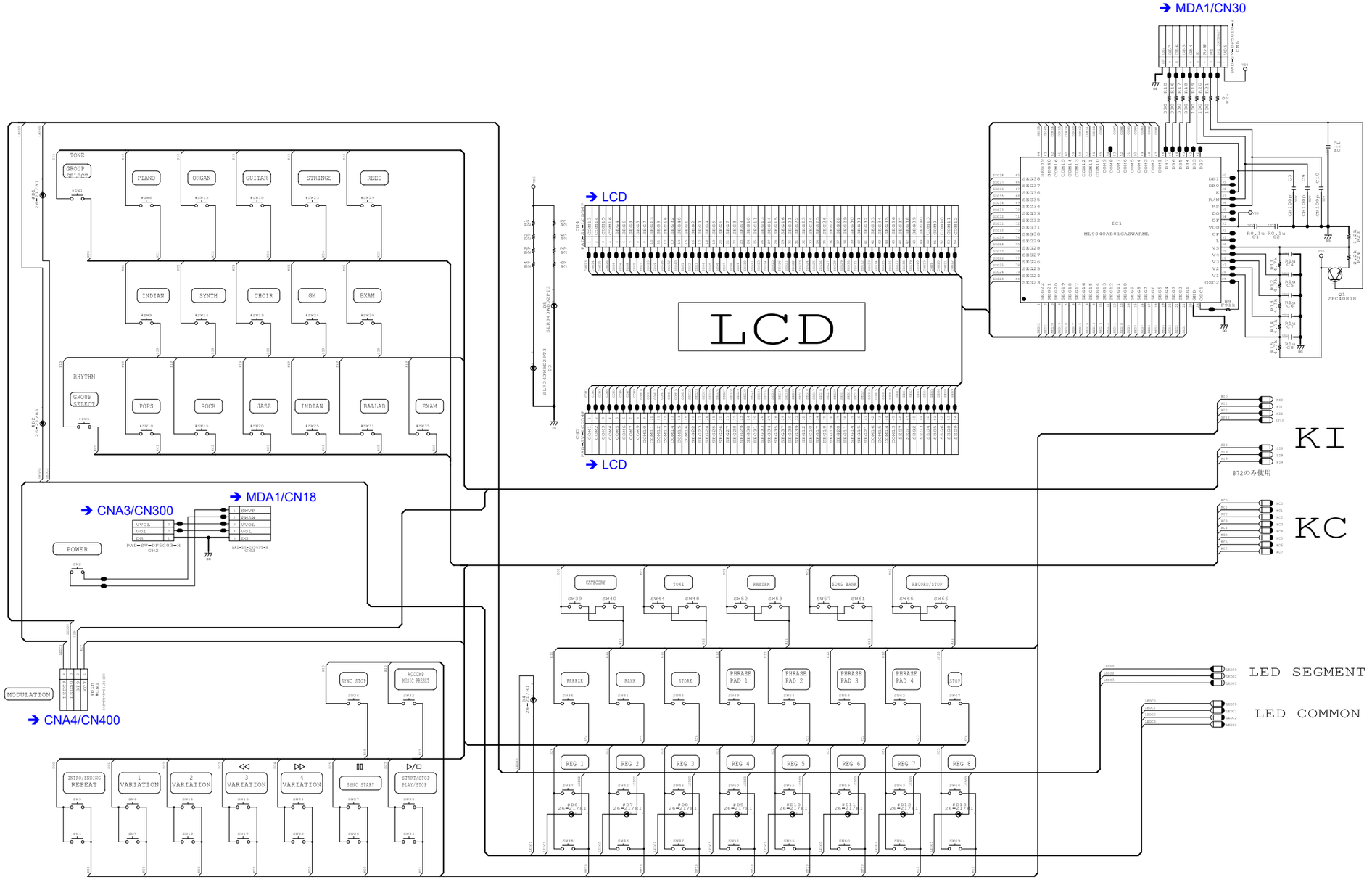
Main PCB: M872-MDA1 (2/2)



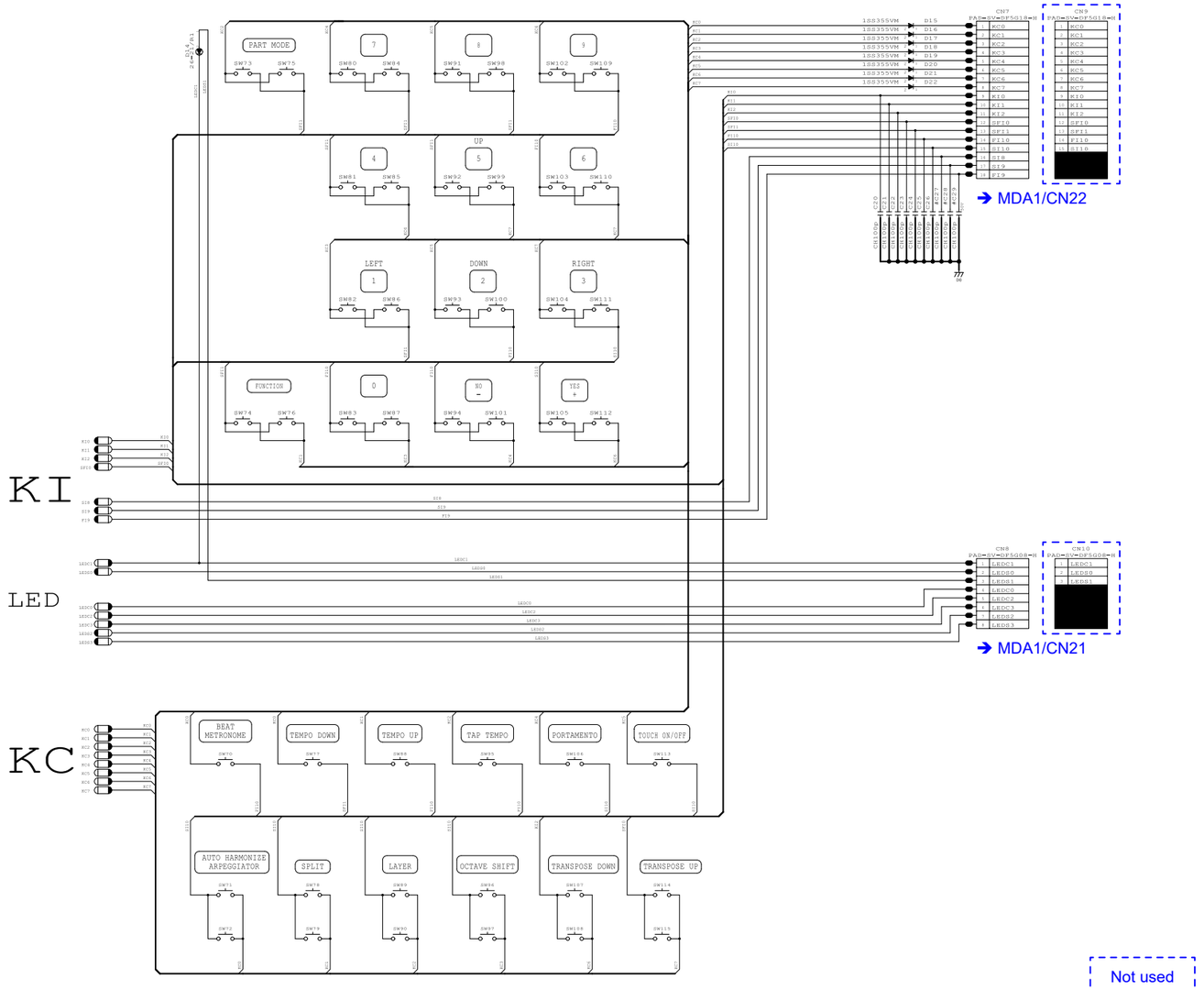
Power Amp PCB: M872-PSA1



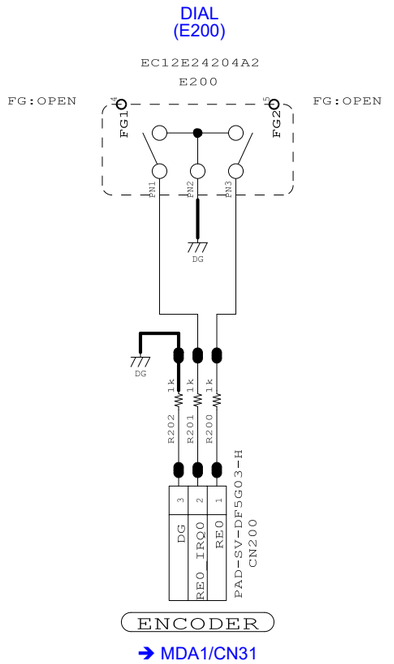
Console PCB: M871-CNA1 (1/2)



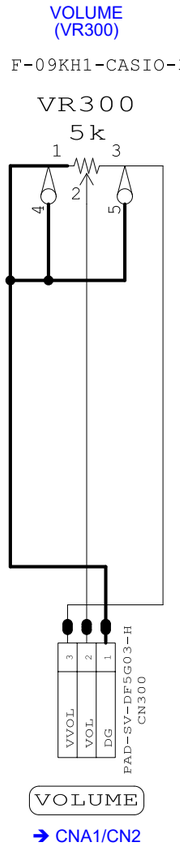
Console PCB: M871-CNA1 (2/2)



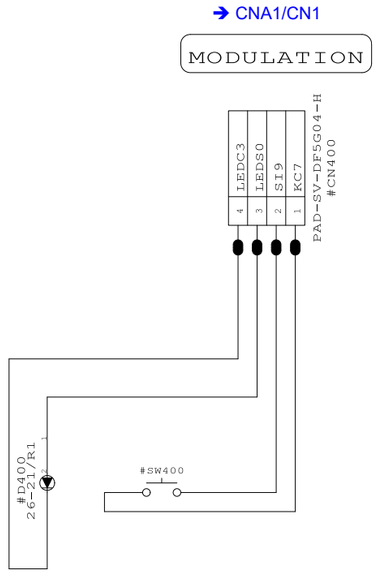
Dial PCB: M871-CNA2



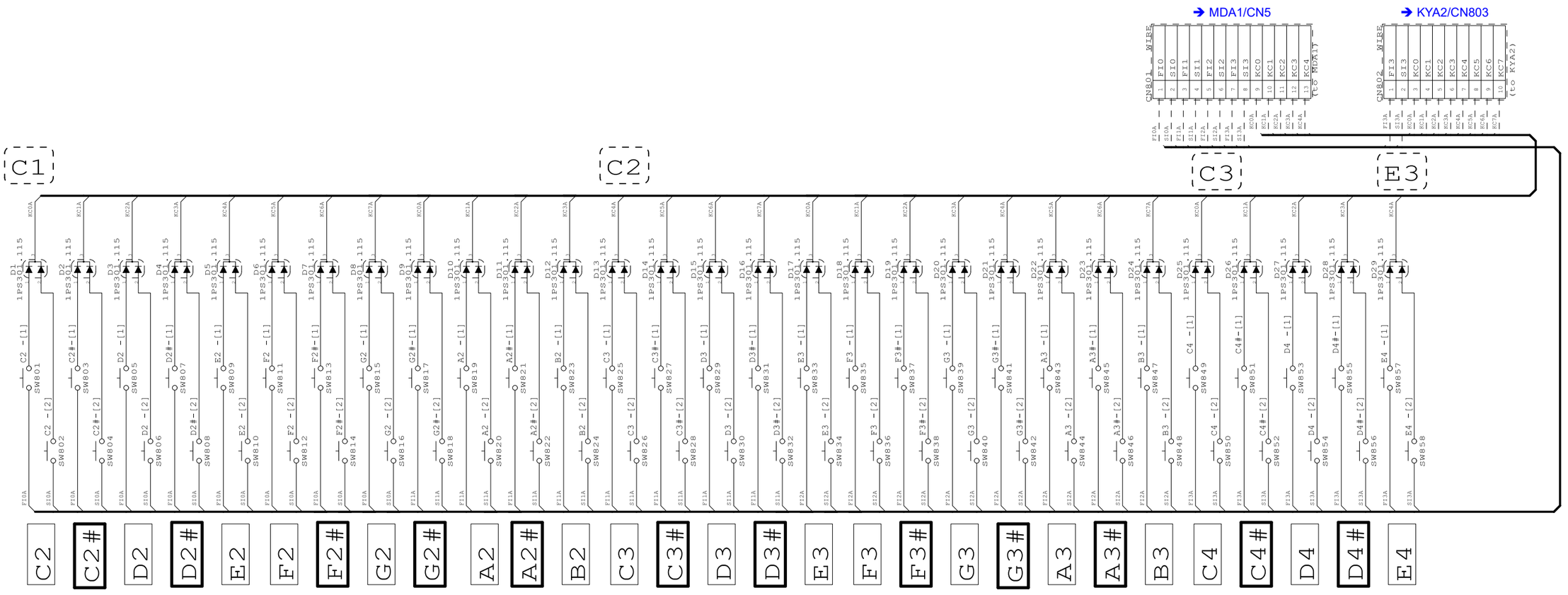
Volume PCB: M871-CNA3



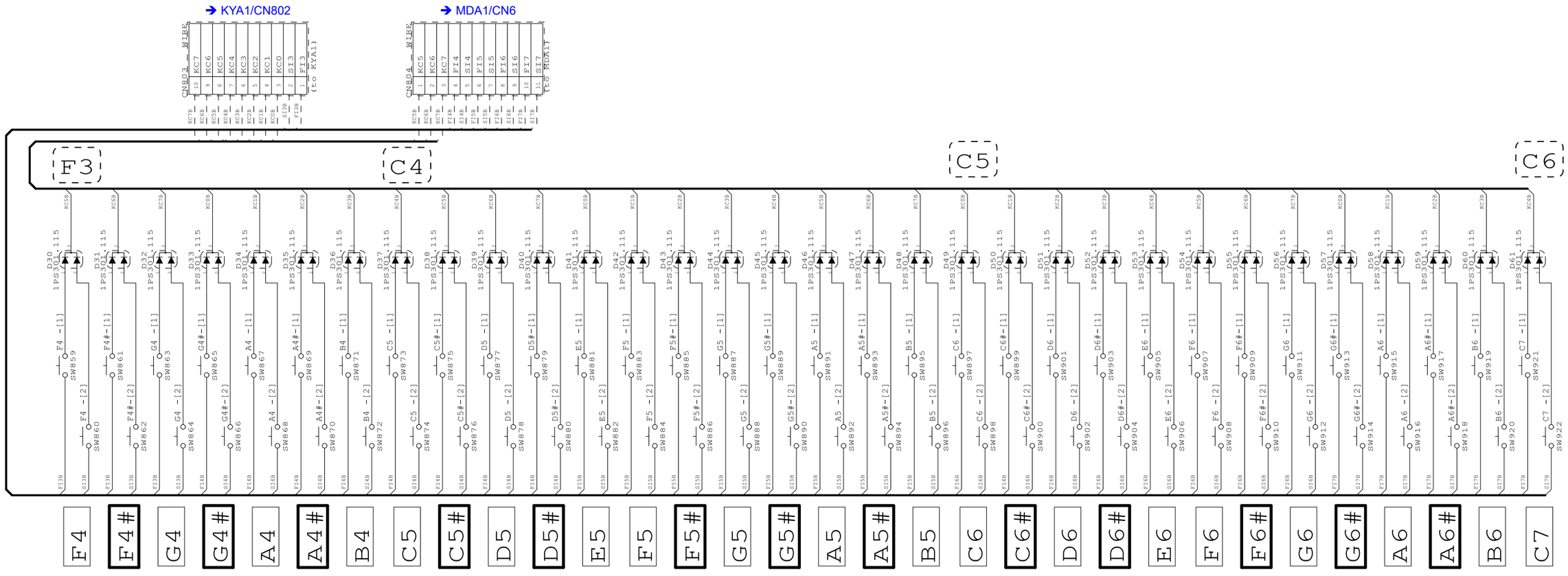
Modulation PCB: M871-CNA4



Keyboard PCB: M802-KYA1

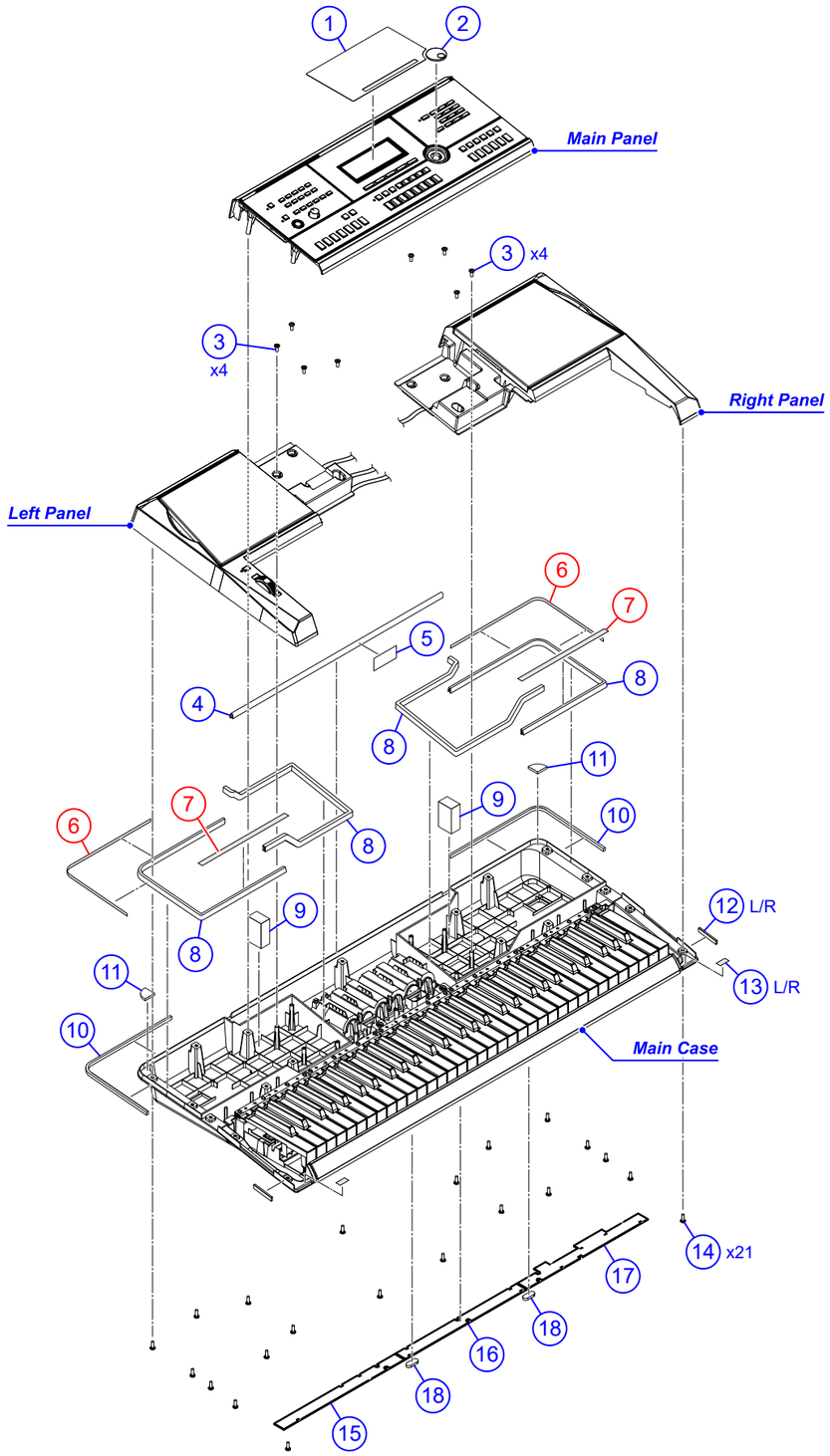


Keyboard PCB: M802-KYA2



EXPLODED VIEW

Main Unit



PARTS LIST

CT-X9000IN_DI

N	Item	Code No.	Parts Name	Specification	Q'ty	R	Remarks
			Main Unit				
N	1	10565929	DISPLAY PLATE	RJM516310-001V01	1	X	
	2	10407929	KNOB/for DIAL	RJM511443-001V01	1	C	
	3	10517162	SCREW	RJM514943-001V01	8	X	
N	4	10571629	PACKING/22X486	RJM516653-001V01	1	X	
N	5	10568672	SHEET/V-ZERO	RJM516521-001V01	1	X	
N	6	10576819	FABRIC TAPE/10X360	RJM516982-001V01	2	X	
N	7	10576820	FABRIC TAPE/10X200	RJM516983-001V01	2	X	
	8	10321174	PACKING	M440856-001V02	4	X	
N	9	10574934	PACKING	RJM516748-001V01	2	X	
N	10	10572480	PACKING/10X360	RJM516688-001V01	2	X	
	11	10575210	PACKING	RJM516844-001V01	2	X	
	12	10575211	PACKING/7X41	RJM507354-002V01	2	X	
	13	69196290	FABRIC TAPE/20X10	M411742-1	2	X	
	14	10517162	SCREW	RJM514943-001V01	21	X	
	15	10521852	LOWER COVER/A	RJM508655-001V05	1	X	
	16	10521853	LOWER COVER/B	RJM508656-001V05	1	X	
	17	10521854	LOWER COVER/C	RJM508657-001V05	1	X	
	18	10419560	RUBBER FOOT	M441160-002V01	2	X	

<Notes>

Price Code : Refer the latest “Parts Price Code” at “PARTS FINDER” on the Casio Service Website (https://www.servicecasio.com).

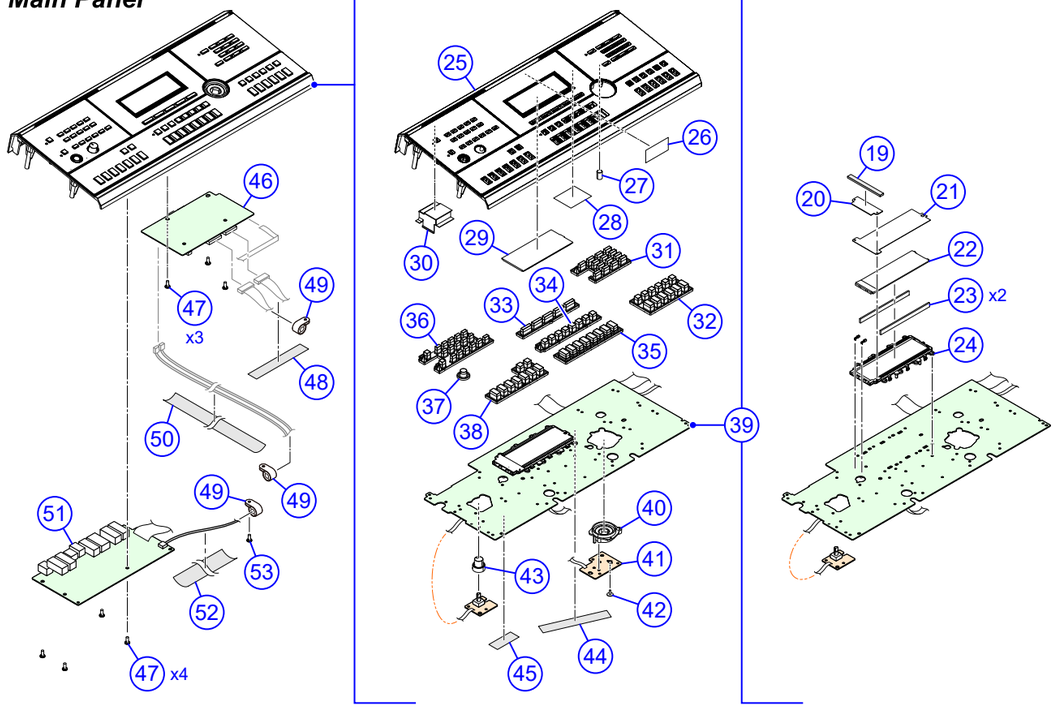
N : New parts

Q’ty : Quantity used per unit

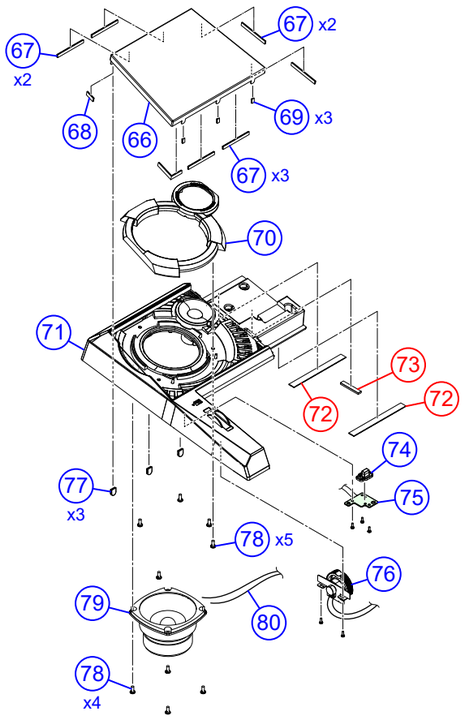
R : Rank (A: Essential, B: Stock recommended, C: Others, X: No stock recommended)

EXPLODED VIEW

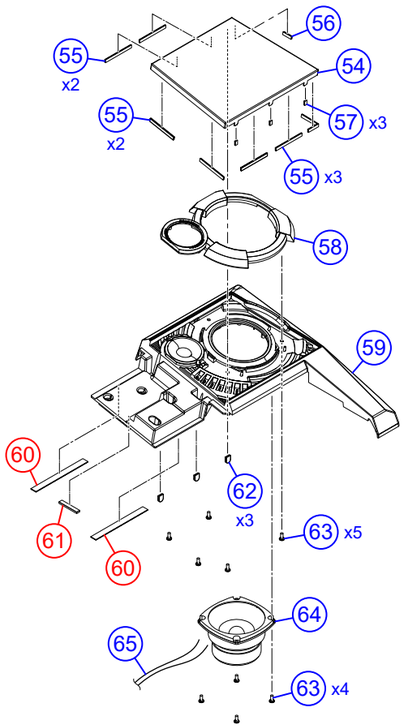
Main Panel



Left Panel



Right Panel



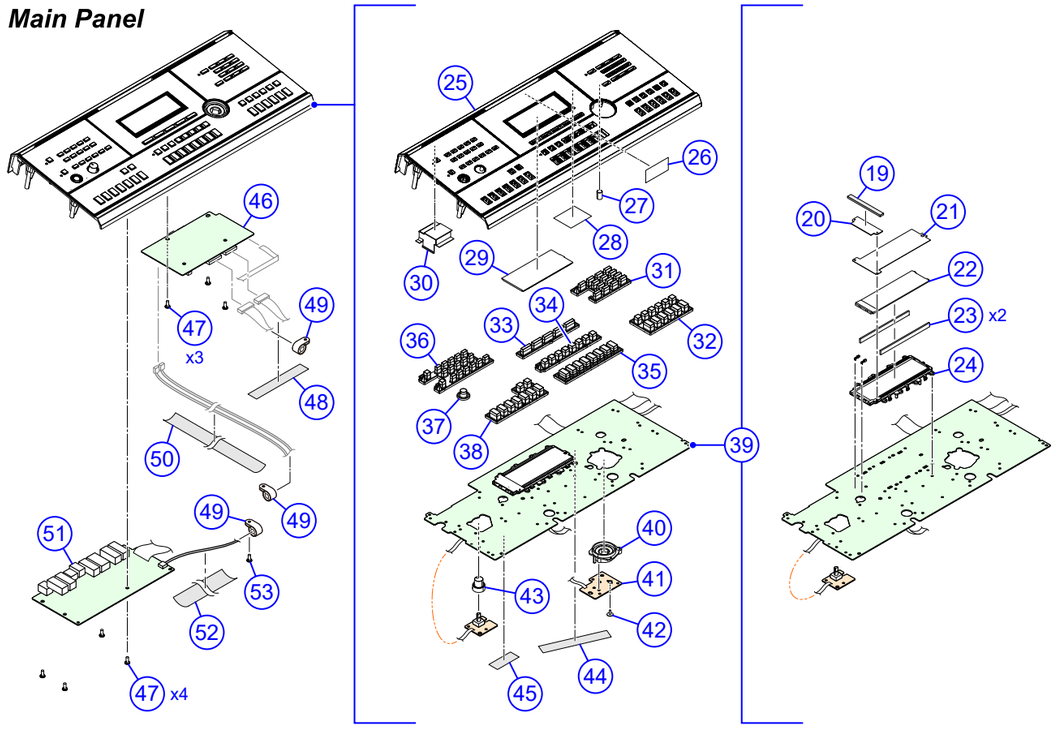
PARTS LIST

CT-X9000IN_DI

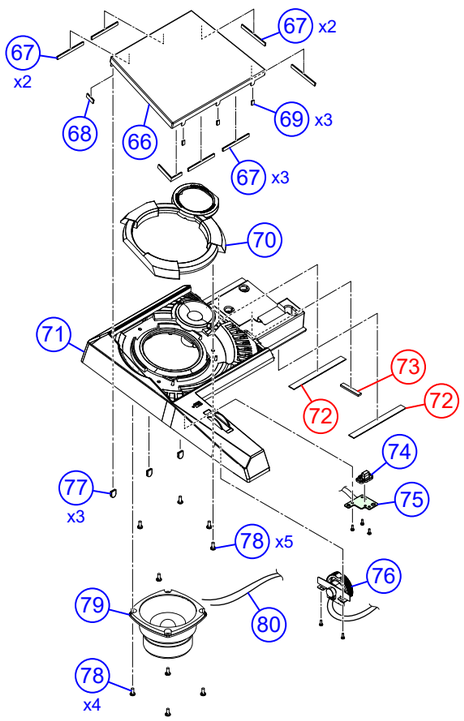
N	Item	Code No.	Parts Name	Specification	Q'ty	R	Remarks
			Main Panel				
	19	10270485	SPONGE/8X75	M441167-001V01	1	X	
	20	10131094	TOP PIECE	RJM502565-001V01	1	X	
	21	10559870	FILM	RJM516225-001V01	1	X	
	22	10557981	BACK LIGHT PLATE	RJM516108-001V01	1	X	
	23	10559868	RUBBER CONNECTOR/for LCD	RJM516226-001V01	2	X	
	24	10557978	REFLECTOR	RJM516107-001V01	1	X	
N	25	10566010	CASE/PANEL	RJM516331-004V01	1	X	
N	26	10568672	SHEET/V-ZERO	RJM516521-001V01	1	X	
N	27	10571630	SHEET/V-ZERO	RJM516519-001V02	1	X	
	28	10402514	SHEET/V-ZERO	RJM511371-001V02	1	X	
N	29	10568608	LCD	UNC-LTNN014370-02	1	X	
N	30	10568673	SHEET/V-ZERO	RJM516522-001V01	1	X	
N	31	10565923	RUBBER BUTTON/B	RJM516303-001V01	1	X	
N	32	10565924	RUBBER BUTTON/C	RJM516304-001V01	1	X	
N	33	10565925	RUBBER BUTTON/D	RJM516305-001V01	1	X	
N	34	10566007	RUBBER BUTTON/E	RJM516306-002V01	1	X	
N	35	10565927	RUBBER BUTTON/F	RJM516307-001V01	1	X	
N	36	10565928	RUBBER BUTTON/G	RJM516308-001V01	1	X	
N	37	10565905	RUBBER BUTTON/A	RJM511139-008V01	1	X	
N	38	10566008	RUBBER BUTTON/H	RJM516309-001V01	1	X	
N	39	10568600	BACK LIGHT UNIT	TK-RJM516495*002	1	X	CNA1/CNA3
	VR300	10554608	VARIABLE RESISTOR	F-09KH1-CASIO-3	1	B	Main volume
N	40	10573190	BEZEL/for DIAL	RJM511444-008V03	1	X	
N	41	10568594	PCB UNIT/CNA2	TK-RJM516483*001	1	X	CNA2
	E200	10174536	ENCODER	EC12E24204A2	1	B	Dial
	42	10203750	SCREW	M411279-001V04	1	X	
	43	10553264	KNOB/for ROTARY	RJM515607-001V01	1	C	
	44	10164446	FABRIC TAPE/20X120	RJM502073-002V01	1	X	for Ribbon cable
	45	10221192	FABRIC TAPE/20X50	RJM506472-001V01	1	X	for Ribbon cable
N	46	10568599	PCB UNIT/MAIN	TK-RJM516351*001	1	A	MDA1
	CN10	10432772	USB CONNECTOR (type A)	UAR27-4K5J00	1	C	USB-A port
	CN11	10236624	USB CONNECTOR (type B)	UBR24-4K5G00	1	C	USB-B port
	47	10517163	SCREW	RJM514945-001V01	7	X	
	48	10164446	FABRIC TAPE/20X120	RJM502073-002V01	1	X	for KY cable
	49	10204256	FERRITE CORE	TRCN16-13	3	X	for KY/SP cable, harness
	50	69260700	SPONGE/35X360	M440483-1	1	X	for SP cable
N	51	10568597	PCB UNIT/POWER & AMP/PSA1	TK-RJM516352*001	1	B	PSA1
	VR1	10398245	VARIABLE RESISTOR	F-09KV-CASIO-2	1	B	Mic volume
	J1	10342138	JACK/DC	LGP7031-0900FC	1	A	DC terminal
	J6	10478582	JACK/PHONE	PJ-64017A-PBTV0	1	B	PHONES jack
	J3,J7,J8	10490438	JACK/SUSTAIN, LIN OUT L, R	PJ-64043B-PBTV0	3	B	PEDAL1 jack, LINE OUT R jack, LINE OUT L/MONO jack
	J2,J5	10478584	JACK/SOFT, EXPRESSION PEDAL	PJ-64044C-PBTV0	2	C	PEDAL2 jack, MIC IN jack
	J4	10305131	JACK/AUDIO IN	ST-3529B	1	B	AUDIO IN jack
	52	69261580	SPONGE/35X150	M440499-1	1	X	for Harness
	53	10517162	SCREW	RJM514943-001V01	1	X	

EXPLODED VIEW

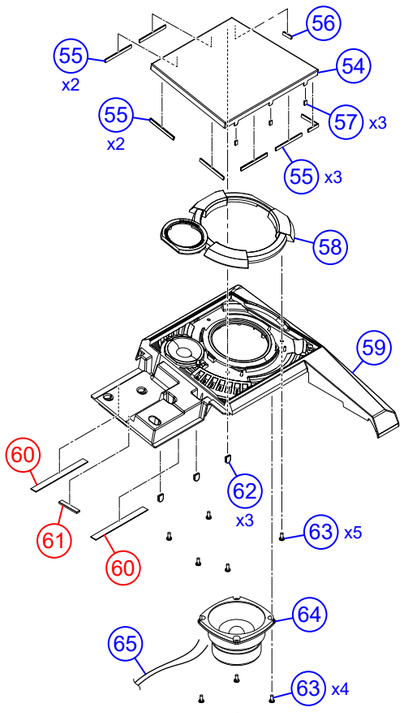
Main Panel



Left Panel



Right Panel



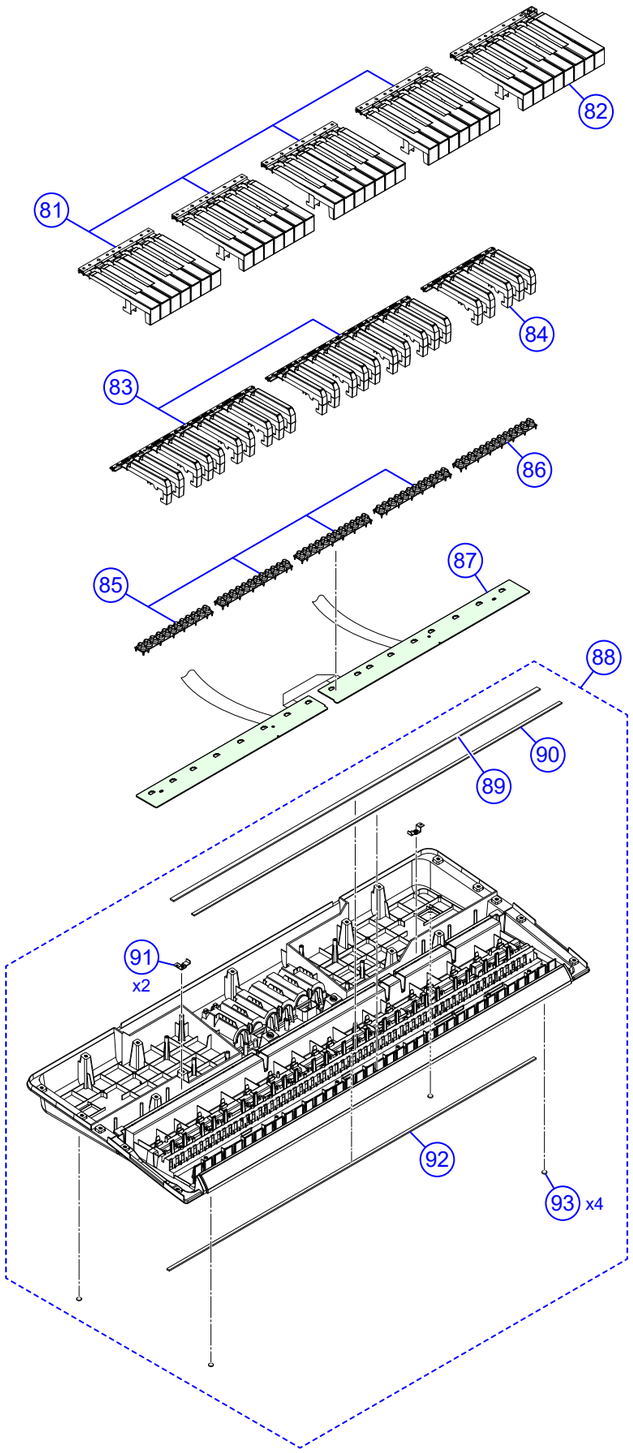
PARTS LIST

CT-X9000IN_DI

N	Item	Code No.	Parts Name	Specification	Q'ty	R	Remarks
			Right Panel				
N	54	10566005	SPEAKER NET/RIGHT	RJM516286-002V01	1	X	
N	55	10575212	FABRIC TAPE/10X60	M440500-3V01	7	X	
	56	69196290	FABRIC TAPE/20X10	M411742-1	1	X	
	57	10145912	FABRIC TAPE/5X16	RJM503705-001V01	3	X	
N	58	10565920	SPEAKER COVER/RIGHT	RJM516283-001V01	1	X	
N	59	10566003	SIDE PANEL/RIGHT	RJM516281-002V01	1	X	
N	60	10576715	PACKING/12X120	RJM516969-001V01	2	X	
	61	10280137	PACKING/7X41	RJM507354-001V01	1	X	
N	62	10571631	CAP/for SPEAKER NET	RJM516627-001V01	3	X	
	63	10517163	SCREW	RJM514945-001V01	9	X	
N	64	10565889	SPEAKER	CJ10FH03	1	X	
N	65	10570323	CONNECTOR CABLE	EF-EH2P075M871A	1	X	for Right speaker
			Left Panel				
N	66	10566004	SPEAKER NET/LEFT	RJM516285-002V01	1	X	
N	67	10575212	FABRIC TAPE/10X60	M440500-3V01	7	X	
	68	69196290	FABRIC TAPE/20X10	M411742-1	1	X	
	69	10145912	FABRIC TAPE/5X16	RJM503705-001V01	3	X	
N	70	10565919	SPEAKER COVER/LEFT	RJM516282-001V01	1	X	
N	71	10566002	SIDE PANEL/LEFT	RJM516280-002V01	1	X	
N	72	10576715	PACKING/12X120	RJM516969-001V01	2	X	
	73	10280137	PACKING/7X41	RJM507354-001V01	1	X	
N	74	10566006	RUBBER BUTTON/J	RJM516290-001V01	1	X	
N	75	10568595	PCB UNIT/CNA4	TK-RJM516484*001	1	X	
N	76	10568587	BENDER UNIT	TK-RJM516439*002	1	C	
N	77	10571631	CAP/for SPEAKER NET	RJM516627-001V01	3	X	
	78	10517163	SCREW	RJM514945-001V01	9	X	
N	79	10565889	SPEAKER	CJ10FH03	1	X	
N	80	10569777	CONNECTOR CABLE	EF-EH2P085M871	1	X	for Left speaker

EXPLODED VIEW

Main Case Unit



PARTS LIST

CT-X9000IN_DI

N	Item	Code No.	Parts Name	Specification	Q'ty	R	Remarks
			Main Case Unit				
	81	10399802	WHITE KEY/CB	RJM507243*004	4	B	
	82	10399803	WHITE KEY/CS	RJM507244*004	1	C	
	83	10406652	BLACK KEY/10p	RJM506595-005V03	2	B	
	84	10406653	BLACK KEY/5p	RJM506595-006V03	1	B	
	85	10269451	RUBBER CONTACT/CB	RJM507656-001V01	4	B	
	86	10452739	RUBBER CONTACT/CS	RJM507657-001V02	1	C	
N	87	10560277	PCB UNIT/KEYBOARD/KYA	TK-RJM508618*004	1	C	KYA1/KYA2
N	88	10568596	CASE UNIT/MAIN	TK-RJM516491*002	1	X	
	89	10513861	FELT/LOWER LIMIT/KEYBOARD	RJM508593-001V03	1	X	
	90	10513862	FELT/DAMPER/KEYBOARD	RJM509138-001V02	1	X	
	91	10284332	BRACKET/for STAND	M440866-001V02	2	X	
	92	10513859	FELT/UPPER LIMIT/KEYBOARD	M440342-001V04	1	X	
	93	10555159	RUBBER FOOT	RJM515614-006V01	4	X	
			Accessories				
	-	10558733	MUSIC STAND	RJM516109-002V01	1	C	
	-	10541271	AC ADAPTOR	AD-E24250LW-P10	1	B	w/o AC CORD
N	-	10533681	AC CORD	INC2LT060-001A	1	X	